Lettsomian Lectures
ON THE
SURGERY OF THE FACE.

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LECTURE II.—PART II.
INJURIES OF THE FACE.
Fracture of Lower Jaw.

FRACTURE of the lower jaw most usually occurs between the lateral incisor and the canine teeth, this situation being perhaps the weakest part of the bone. The inferior maxilla may, however, be broken in other situations—at the symphysis, the angle, or at the neck of the condyle. An interesting case, from a diagnostic point of view, in which the neck of the condyle was fractured, is recorded by Mr. T. Holmes.[1] In this example there was displacement of the lower fragment into the meatus auditorius externus, with serous discharge from the ear. The case was interesting, as showing the source from which the sero-sanguineous discharge may come, whether it may depend on a fracture at the base of the skull, or whether merely from a fracture of the external auditory meatus.

Fracture of the neck of the jaw by *contre-coup* is still more rare, yet such a case has been described by Dr. Cockburn, of the Royal Engineers. The injury was caused by a blow of the fist, received at the left side of the face. The least attempt to open the mouth caused much pain at a point close to the tragus of the right ear. It was easy to guess the nature of the injury, and it required but little manipulation to detect a simple fracture of the condyloid process of the right side, at a point very close to the insertion of the external pterygoid muscle. The fracture was put up in the usual manner, with a splint of gutta-percha moulded to the lower jaw, the usual chin-sling bandage, with a piece of cork between the teeth. The case did perfectly well.

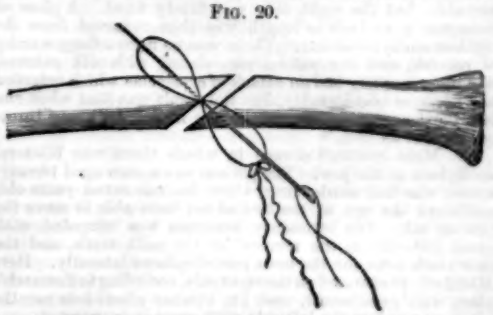
Fractures of the lower jaw, as a rule, unite most perfectly, and however great the primary displacement may be, experience proves that the muscles resume their harmonious action, and in the end a most satisfactory result is obtained. In some instances, however, the bones unite very irregularly: thus, in a case of this kind, Mr. Bickersteth, of Liverpool, had to divide the bone with a saw, and then nailed the parts together with small brass pins.[2]

The plan of fastening the broken ends together with wire passed over the teeth is of ancient date, but the wire so placed is very apt to slip. Mr. Thomas, of Liverpool, speaks highly of a plan he has successfully adopted of boring a hole with a drill on each side about a quarter of an inch from the fracture. Through these holes a wire is passed, and twisted in the form of a coil. The immediate effect in one case was that from the first day the patient expressed himself as able to use the jaw.[3]

Another plan is that practised by Mr. Wheelhouse, of Leeds, and represented in the diagram I show you.[4] Two holes are bored with a drill through the substance of the jaw-bone, one on either side of the fracture. Through these holes two pins, having flat, circular, and perforated heads, are passed from behind forwards, and their points bent in opposite directions. The perforated heads are then threaded with a good stout silk ligature, which is brought forward over the teeth, and a figure-of-8 suture made round the reversed ends of the pins. Mr. Wheelhouse informs me that he has adopted this plan in one other case with success.

And, lastly, although I have not yet had an opportunity of testing it, I take the liberty of referring to a simple plan of uniting broken bones, which I successfully employed in 1871 in a case of ununited fracture of both bones of the forearm, an account of which is published in the Medico-Chirurgical Transactions.[5] This method might, I venture to think, be advantageously used in suitable cases of fracture of the lower jaw. Its principle is well illustrated in the woodcut (Fig. 20), which represents it as applied to one of

FIG. 20.



the bones of the forearm. It will be perceived that it is nothing more than the twisted suture, and that by withdrawing the needle the wire or thread is of course released. In adopting this method I imagine that the risk of damaging the bone is very slight. Mechanical apparatus for keeping the fragments together have been suggested by Mr. James Salter,[6] by Mr. Gunning, Mr. Berkeley Hill,[7] Mr. Moon,[8] and by others.

In those rare examples in which bony union fails to take place there is abundant scope for ingenuity on the part of surgeons practising dental surgery. Thus Mr. Napier has furnished me with the particulars of a case of ununited fracture of the lower jaw which was sent to him by the late Sir William Fergusson, in August, 1867. The patient had been frightfully wounded during the siege of Lucknow, and besides having the lower jaw fractured in three places, had also a large portion of the superior maxilla carried away by a cannon-ball. Exfoliation to a considerable extent took place in the lower jaw, which, together with the loss of many teeth, caused an ugly and inconvenient contraction. There was no bony union whatever, but Mr. Napier so constructed an apparatus as to completely restore the power of mastication.

Permanent Closure of the Jaws.

In all cases of permanent closure of the jaws in which the lower jaw is fixed by cicatrices, whether caused by injury or by disease, the mere division of the cicatricial band is seldom sufficient to effect a complete cure, for the wound heals rapidly, and the cicatrix, as a rule, becomes even more dense than before. In operating on such cases, Mr. Callender suggests that after the free division of the cicatrix a portion of the alveolar border, together with the teeth, should be removed.[9]

The division of the masseter muscles has been adopted in certain cases, both subcutaneously and by a submucous method through the mouth.[10] The operations that meet with most favour at the present day are (1) that proposed by Rizzoli, of Bologna, in which the bone is simply divided, and (2) that practised by Esmarch, which consists in removing a portion of bone. Esmarch's operation has been performed by Mr. Mitchell Henry, Mr. Barnard Holt, Mr. Heath, Mr. Lawson, Mr. MacCormac, M. Richet, by myself, and other surgeons. Most of these cases have been published, and I therefore need not detain you further than by saying that the operations were undertaken either on account of a dense cicatrix existing between the jaw and the cheek, the result of injury or disease, or for anchylosis of the temporo-maxillary articulation. The case on which I operated belonged to the latter class, and the joint on one side only was affected. The patient was a woman aged twenty-nine, who thirteen years previously had scarlet fever. Abscesses formed in the temporo-maxillary region, and she recovered with fixed jaws. A horizontal incision was made, about two inches in length, in the soft parts under the body of the jaw on the right side; the soft tissues were then separated from the bone, and an opening made into the mouth between the teeth and the

[1] Path. Trans. 1861, p. 159. [2] THE LANCET, Jan. 19th, 1867, p. 79.
[3] Erichsen's Surgery, 7th ed., vol. i., p. 400.
[4] THE LANCET, Aug. 17th, 1867, p. 196.
[5] Vol. liv., 1871, p. 313. [6] THE LANCET, June 16th, 1866, p. 698.
[7] Essentials of Bandaging, p. 22.
[8] Guy's Hospital Reports, vol. xix., 1874.
[9] THE LANCET, June 17th, 1876, p. 873.
[10] Prov. Med. Journal, vol. iii., 1841-42, p. 345.

cheek. A narrow saw was applied vertically in the space between the first and second bicuspid teeth, and the bone divided with the help of the cutting forceps. After this section the left side of the jaw was found to be freely movable, but the right side was firmly fixed. A piece of bone nearly an inch in length was then removed from the right or anchylosed side. There was no hæmorrhage worthy of remark, and the wound was closed with silk sutures. She unfortunately had an attack of erysipelas which retarded her progress considerably, but the result was that when she left the hospital she could open her mouth for about three-quarters of an inch.[11]

Dr. Maas relates[12] a case in which there was bilateral anchylosis of the jaw. The patient was a man aged twenty-seven, who had scarlet fever when he was seven years old, and since the age of ten he had not been able to move the jaw at all. The secondary dentition was attended with great difficulty in the removal of the milk teeth, and the new teeth were for the most part displaced laterally. Herr Middledorpf operated on the right side, according to Esmarch's plan, with good result, and Dr. Fischer about four months after operated on the left side with great improvement.

It is seldom that an opportunity is afforded of examining the pathological condition of the parts after operation, but M. Boinet reports one such example.[13] The patient was a little girl who had immobility of the lower jaw following gangrene of the mouth. Rizzoli's operation was performed, and matters appeared at first to go on well, but at the end of three months the divided portions began to unite, and in eight months there was complete consolidation. M. Boinet then performed Esmarch's operation, removing a wedge-shaped piece of bone, with the base at the lower border of the jaw and the apex at the alveolar ridge. The operation was performed in June, 1863, and six weeks or two months afterwards the patient could eat any kind of solid food. In the beginning of September, 1866, she died of phthisis, having up to the time of her death retained the mobility of the jaw. On examining the bone, it was found that there was a false joint between the divided portions, and there was an arrest of development of the bone and atrophy of the muscles inserted into it.

Foreign Bodies in the Nose and Ears.

Foreign bodies, such as cherry-stones, locust-beans, brass rings, slate pencils, screws, buttons, pieces of wood, peas, &c., are not unfrequently met with in the aural and nasal cavities of children, and even in adults. Such substances have been known to remain in one or other of these cavities for wellnigh a lifetime, causing little or no inconvenience. Thus a case is related of a lady from whose nostril a foreign body was dislodged during the act of sneezing; it was found to be a button which had belonged to her little brother when they were both infants.[14] Another case is recorded[15] in which a piece of slate pencil was removed from a woman's ear, which had been put there when she was at school "forty years before." And a third instance, a patient of Mr. Winterbotham's, of Cheltenham, in which a cherry-stone had been in the ear for sixty years.[16] Mr. Hargood, of Eastbourne, also recently reported the case of a gentleman, aged forty-one, from whose ear a piece of cedar wood was removed by syringing. "The patient remembered distinctly the fact of its introduction when he was a boy at school, at least thirty years before. No attempt had been made to extract it, and its presence had not troubled him until now."

It occasionally happens, however, that a good deal of inflammatory action is set up by the foreign body. As a case in point, I may mention that of a girl who was under my care at the hospital, and who was admitted on account of having a small stone in her ear. She subsequently had paralysis of the facial nerve. Mr. Jonathan Hutchinson alludes to the case of a child who not only had facial palsy, but died of meningitis caused by the presence of a locust-bean in the ear.

There are various instruments employed for removing foreign bodies from the ear, each good in its way. A loop of wire, a scoop, or a needle with the point just slightly turned up, forceps, or an instrument such as this I now show you—which is the best—may be used.

11 Med. Times and Gaz., July 1st, 1876, p. 7.
12 Archiv für Klin. Chirurg., Band xiii., Heft 3.
13 Gazette Médicale de Lyon, Oct. 1st, 1866.
14 THE LANCET, July 2nd, 1859, p. 13.
15 Ibid., May 11th, 1867, p. 591.
16 Med. Times and Gaz., vol ii., 1866, p. 497.

It is not always easy to detect the exact character of the foreign body, and as bearing on this point I may incidentally refer to the case of the man who is here this evening in the adjoining room. About fifteen months ago he was accidentally shot behind the left ear. The patient was seen by my friend, Mr. Henry Jacobs, of Kensington, who has given me the opportunity of examining him with reference to the lodgment or not of the bullet, for the latter could not be discovered after the accident. There is a constant discharge from the ear, and, as you will observe, well-marked facial palsy. My colleague, Dr. Stone, has kindly constructed a clever electrical apparatus by which we are enabled to detect the unquestionable presence of the bullet. Dr. Stone has done us the honour to be present, and I think you will agree that the Society is much indebted to him for the trouble he has taken in bringing the apparatus here, and of thus giving the Fellows the opportunity of witnessing so interesting an experiment.

[The apparatus constructed by Dr. Stone consisted of two fine pieces of silver wire, covered with silk, which were wound together in a single strand to imitate a probe, about three inches in length. The whole was insulated and stiffened with shellac, the ends being left loose for connexion with a battery and galvanometer. The joined ends at the opposite extremity were cut, so as to leave two little discs of clean silver. On placing these discs in contact with the foreign body in the ear, the galvanometer was visibly deflected, indicating the presence of a metallic substance, which was naturally assumed to be the bullet. The exposed surfaces of the discs were intentionally kept as small, and the insulation as perfect, as possible, to prevent the transmission of a perceptible current by the fluids of the sinus.]

Living larvæ have been found in the meatus of the ear. Dr. Routh publishes such a case. The patient was a gentleman who three years before was tormented with a fly near his ear. Convulsions followed the presence of the larvæ, but the patient recovered, although he remained deaf.[17] Dr. Blake, of Boston, has seen four such cases.[18]

Dr. Kealy, of Gosport, reports a case to show the curious course taken by a pin that had been introduced into the external meatus. It passed through the middle ear, probably along the Eustachian tube, and was extracted by the patient from her throat by hooking it with her finger.[19]

In dealing with foreign bodies situated in the external auditory meatus, syringing the passage will often suffice to effect removal, but in many cases forceps and other instruments must be used, yet they should be employed with the greatest caution. As a rule, if left alone, the foreign body becomes loose, and falls out on the pillow as the patient lies in bed. In extracting foreign bodies from the ear, M. Debout has recommended that the mouth of the patient should at the same time be kept open. It is sufficient, he remarks, to introduce the end of one's finger (and the Fellows may try it on their own person) into the external auditory canal, and to make the lower jaw move, in order to become convinced of the enlargement that the canal undergoes each time the condyle of the jaw is made to move. Dr. Voltilini offers some very sensible and practical remarks on this subject, which I venture to quote.[20] He says: "The first thing we have to do is to assure ourselves that a foreign body is really in the ear, for it by no means rarely happens that persons apply to the surgeon under the belief that an insect or other substance is present, but which a more exact inspection fails to discover." He adds we should never employ force, and in saying this he did not wish to convey the idea that foreign bodies should always be left in the ear, but that matters should not be made worse by violent manipulations. Still more recently, Mr. Dalby has laid down a very practical law that no attempt should be made to remove a foreign body from the ear unless the auditory canal be thoroughly illuminated. Where this rule is broken the tympanic membrane will most probably be ruptured, and thus the life of the patient placed in imminent peril.

Foreign Bodies in the Orbit and Face.

The limits of my time prevent me from entering into the different injuries of the orbit and its contents, and I regret this the more inasmuch as wounds in the neighbourhood of the eye frequently gives rise to various anomalous symptoms. In fencing the foil has occasionally passed straight through

17 THE LANCET, 1849, vol. i., p. 588.
18 Ibid., 1872, vol. ii., p. 861.
19 Med. Times and Gaz., Dec. 17th, 1859, p. 602.
20 Brit. and For. Med.-Chir Review.

the orbit, and has penetrated the brain, in some cases, even without injuring the globe of the eye.

The specimen on the table, from the museum of St. Thomas's Hospital, is one of great interest, as illustrating the curious course taken by a portion of a table-knife, which entered the cavity of the skull through the orbit. A girl was mixing some detonating powder with a large table knife. An explosion took place, and she was severely burnt about the face, for which she was admitted into St. Thomas's Hospital. A part of the knife could not be discovered in the room in which the accident occurred. The girl died about a week after admission, and at the post-mortem examination the missing portion was found in the position you now see it placed, vertically between the vertex and base of the cranial cavity.

Mr. George Lawson[21] has placed on record an interesting account of the lodgment of a large piece of stick in the orbit itself, accompanied with paralysis of all the muscles of the orbit; and I may refer to a somewhat remarkable case that was under the observation of Mr. Furneaux Jordan[22]: "A man, who was employed in threshing, became the subject of severe ophthalmia. At the expiration of several weeks the patient, whilst pressing his finger on the lower eyelid, suddenly ejected from a comfortable bed of warm pus a grain of wheat, which had shot forth a vigorous green sprout." Foreign bodies will remain imbedded in the face for days, months, or years without giving rise to any discomfort. Thus I not long ago removed from a gentleman's face eight or ten shot, which had caused no inconvenience whatever for twelve years. Substances of different kinds are occasionally found imbedded in various parts of the face without the patient being at all aware of their presence.

In 1868 I saw a man, aged forty-two, at the Westminster Hospital, who had a swelling on the lower lip on the left side. He had been told he had cancer, and sought advice on that account. It appeared that he had fallen from a scaffolding two or three months previously, and had sustained considerable injury to his scalp and face, and his lower jaw was fractured. He had been a patient elsewhere, and stated that when he was under treatment he had fits. On examining the part, the lip was found a good deal swollen, and rather tender to the touch. I made a puncture, when the knife impinged on a hard substance, which proved to be a portion of the crown of the left lateral incisor of the lower jaw, which the patient said he missed after the accident. It was decayed at the neck, and had sharp edges. The patient made a good recovery.

Another instance is recorded[23] in which a canine tooth was lodged in the thickness of the lower lip simulating a cancerous tumour. The patient was a lady forty years of age, who had always suffered with her teeth, and had but few incisors left, the rest of the jaws presenting roots more or less firmly wedged, and the alveoli more or less decayed. Towards the end of the year 1854 she felt a small tumour forming in the lower lip of the left side. Pain was subsequently experienced, and a few months afterwards the patient could hardly eat. She sent for her medical attendant, who made a crucial incision, and discovered a long root of the canine tooth which had been embedded in the substance of the lip.

Another case is related by Mr. W. H. Folker,[24] at the North Staffordshire Infirmary. The patient was sixteen years of age, a joiner, and was admitted August 29th, 1867, on account of a tumour existing in the substance of the upper lip. The swelling was on the right side of the mesial line corresponding to the right central incisor tooth (which was noticed to be wanting), and it seemed to be formed by hypertrophied lip. It caused a good deal of deformity, as the patient was unable accurately to close his lips. The tumour felt hard, but was not painful. On carefully examining the swelling, a small aperture was perceived at its base; and on passing a fine probe a hard substance was felt, which was diagnosed to be a tooth. On August 31st, an incision having been made through the tumour, a tooth was found at its base. After its removal the swelling disappeared, and the patient was discharged on the following day.

Mr. Haynes Walton has reported a case[25] of a patient, aged thirty-five, who, three years and a half before, had a fall, and lost his right upper lateral incisor. He had much pain, and a few weeks later an abscess formed, which discharged through a small opening in the cheek as well as through the alveolus of a lost tooth. Then another abscess formed, leaving a sinus open in the right cheek. On probing this, a hard substance was found. The wound was opened up, and a perfect incisor tooth, lying loose in the antrum, was removed.

I need scarcely add that carious teeth, which may be almost regarded as foreign bodies, give rise, as all surgeons practising dental surgery are aware, to an endless variety of anomalous symptoms, such as neuralgia, squint, wry-neck, closure of jaws, epilepsy, &c. Mr. Hancock[26] has reported several such cases. One was a patient whose jaw had been closed for twelve months; a second, a girl affected with wry-neck; a third, a case of supposed tumour of the cheek; a fourth, a case of amaurosis lasting for a month; a fifth, a man who was totally blind in the right eye for eight months; and a sixth, a patient with strabismus and ptosis. Mr. Adams Parker[27] and Mr. Samuel Smith[28] have contributed similar examples.

In conclusion, I will refer to an interesting case that was under the care of Dr. George Johnson,[29] in which tetanus, with facial neuralgia and palsy, and a recurrence of epilepsy, were excited by a foreign body imbedded in the cheek. The patient was a wheelwright, aged forty-four, who, on July 4th, 1872, was cut on the cheek by a blow from an iron axle that fell upon his face. The wound was strapped up by a chemist, and healed, but remained very painful. On the 12th he had an epileptic fit. In early life he had been subject to epilepsy, but until the occasion mentioned had been free from fits for twelve years. On the morning of the 13th—that is, about ten days after the accident—he had difficulty in opening his mouth. The left masseter muscle felt prominently hard and rigid. There was a scar, about three-fourths of an inch long, an inch below the left eye, the cicatrix being hard and very tender to the touch. Dr. Johnson, believing that there was a foreign body present, directed the house-surgeon to cut through the cicatrix, when a sharp, angular piece of flint, nearly as large as a grain of wheat, was discovered and removed. With this the symptoms gradually passed away. The chief interest of the case, as Dr. Johnson remarked, consisted in the fact that formidable nervous symptoms were excited by the presence of a foreign body of small size beneath the cicatrix of a recently healed wound.

[21] THE LANCET, Sept. 15th, 1877, p. 390.
[22] Med. Times and Gaz., Feb. 22nd, 1862, p. 203.
[23] THE LANCET, May 17th, 1862. [24] Ibid., October, 1868.
[25] Medical Times, November, 1869.

[26] THE LANCET, 1859. [27] Ibid., vol. i. 1862. [28] Ibid., vol. i. 1867.
[29] Clinical Society, Nov. 8th, 1872.

Clinical Lecture

ON THE

DIAGNOSIS OF LUNG INFLAMMATIONS.

Delivered at the Westminster Hospital,

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GENTLEMEN,—I have to ask your attention to-day to some examples of lung disease lately in Burdett ward, which are instructive, among other ways, as showing how the same disease may be very variously expressed in different subjects, while, conversely, diseases which are radically different may have symptoms so far similar as easily to be mistaken the one for the other. They show besides, if I mistake not, that forms of lung inflammation which we are in the habit of grouping together under a common name have distinctive characters which it is of great importance to be able to recognise at the bedside. The cases, which I relate only in abstract, all occurred during the last month, and were probably due in various measure to the persistent east wind and low temperature which interrupted a long period of warm wet weather, during which acute chest affections had been infrequent.

The first was a boy of seven, admitted with pleural "stitch," temperature of nearly 103°, pulse of 120, and respiration 60—symptoms which had come on suddenly the previous day. Near the seat of pain over the right chest a dry pleural rubbing was heard, but excepting this the respira-

tion was entirely free. The sounds of lung engorgement or lung consolidation, which the general symptoms led us to expect and to seek, were all absent. I ventured, nevertheless (and it was no very bold venture), the statement that this boy had pneumonia, and not merely pleurisy; or rather, that the pleurisy which was already heard was but a part of a more general affection to be more fully developed presently. And so, indeed, it happened; yet not until the sixth day of illness did the lung itself, near the seat of the pleural friction, give evidence, by the usual auscultatory signs, of consolidation. Two days after this, or about the eighth day of illness, the temperature fell from 102·4° to 97°, or over 5 degrees, the pulse falling with it from 120 to 90. The patient thereupon began to recover, and in a very few days was convalescent.

Here, no doubt, was a quite ordinary example of pneumonia where pleurisy happened to precede lung inflammation, the latter being unusually delayed. Even admitting, as many would contend, that lung engorgement or consolidation was actually present in small extent before it was discovered, it is still improbable that this would remain concealed for more than four days, and then suddenly become manifest over a large portion of lung. Such is not the character of ordinary pneumonia, which, on the contrary, occupies at once the whole territory it means to invade, even although—as is also common—its rate of advance is different in different lobules. The view often adopted to account for this delay on the part of the physical signs supposes a central pneumonia gradually extending so as not to reach the ear until it approaches the surface. The explanation I believe to be fallacious. The pneumonia that spreads is of a much graver type, and often fatal. It is quite common for the pyrexia of pneumonia to precede its earliest physical signs, only in the present instance there is a somewhat longer interval than usual, yet not longer than has been noticed repeatedly.

We had the signs of pleurisy, however, although we had not the signs of inflammation of the lung. It was this pleurisy, you may contend, that led eventually to inflammation of the adjacent lung, the order of events being precisely indicated by the physical signs. I say, on the contrary, that this was pneumonia from the first; and, what is better, I said so at the time, when as yet the local signs were those of pleurisy only.

The factors of pneumonia, so to speak, are so distinctive that you may recognise them apart, or rather its signs are so many that you do not need them all to make sure of it. If you can exclude the specific fevers (perhaps it should be said the *other* specific fevers), its general symptoms are enough to declare, or, if you will, to herald its approach. And especially as regards pleurisy. The temperature, pulse, pulse-respiration ratio, and, more than all, the aspect and manner, told at once that there was more than that. Pleurisy, however severe, has all the characters of a local affection. It is as actively annoying and as petulantly resented as a toothache. Pneumonia, it is true, includes pleurisy, and often shares its pain. Yet it is never *felt* in the same way. Sometimes it is not felt at all in the sense of giving pain. It is certain only that the whole system will be impressed—it is uncertain which part of it will suffer first or most. And this brings me to the second case.

A day or two after the discharge of this first boy another came to occupy the same bed, imperfectly recovering from a fit that had seized him that morning. He was still in a state of stupor, and for some hours unable to give an account of himself. It was then learnt (the notes of all the cases are by Mr. Heritage, my clinical clerk) that on first rising and making his way to Covent-garden Market he had felt violent headache, that he turned to go home, but, soon losing consciousness, missed all knowledge of the interval between then and now. He had had no previous illness, and was not epileptic. Now I need not say that a true epileptic fit may occur at any age for the first time and from quite undiscoverable causes, or that it is common for such fits to leave the patient in that condition of stupor in which we found this boy. Yet that this was more than epilepsy soon appeared from other signs—a temperature, namely, of 103·5°, respiration 34, and pulse 120. Here again, looking to his general symptoms and acting partly on the principle of exclusion, it was soon apparent that the patient had pneumonia, although as yet only a friction rub could be discovered over the left side. And, accordingly, on the fifth day signs of consolidation appeared at *the apex* of the left lung, which underwent the same transitions as in the first case. On the eighth day, that is, the temperature suddenly dropped three degrees (from 102·8° to 99·8°), and on the tenth day, without any medicine, unless citrate of ammonia be accounted such, the boy was convalescent.

Here again is a pneumonia following the common course of that disease in its duration, physical signs, and mode of termination. Its peculiarity is that the nervous symptoms are the earliest of all—first severe headache, presently prolonged unconsciousness, while here also the local signs did not appear until late. But this second case, although, reckoning by its pyrexia, of the same duration as the first, was really longer. Although the boy was of perfectly good health, he did not so soon recover strength as the other, and he wasted more. We observe at once, therefore, that the period of crisis does not correspond with the severity of attack. In all true pneumonia the crisis is to be expected between the fourth and tenth day, but this expectation cannot be further qualified by the character of the particular attack. Severe pneumonia may have early, trivial pneumonia may have late crisis. We notice further that a pneumonia of small area affecting the apex of the lung is here a graver disorder than one of larger area affecting the lower lobe. This is no uncommon observation. So far, indeed, it may be said truly that the precise seat of the affection, rather than its extent, goes to determine its character. Of course, very extensive hepatisation must be always perilous, since lung space cannot be spared indefinitely. But we may not draw upon this rule by saying the less space the less danger. We may say so, as I shall presently show, in other lung inflammations, but not in pneumonia. All we can say of it is, that the apex affection (although often quite the same as any other) is very apt to implicate the nervous system; so that active delirium, repeated convulsions, great prostration, or even, as in the present instance, epileptiform convulsion, belong to it most. And, inasmuch as these symptoms will sometimes appear very early, and as apex pneumonia is often without pleural pain, and sometimes from first to last without spitting, it follows that we have here a somewhat insidious form of the disease. It is not "latent," as it is sometimes called. Everything is there as it should be—the pyrexia, the altered respiration, the physical signs,—but it is not so obviously brought before the senses as when the breath is "catching" as well as short, and the cough sufficiently vigorous to dislodge the actual material of the disease for our inspection. Hence it happens that pneumonia affecting the apex has been taken sometimes for meningitis, sometimes for typhoid fever. I have even known the delirium to be so extreme and sudden as to appear like acute mania.

I pass on now to a third and fatal case, and, as with the others, only note those cardinal points which concern the present question. A delicate-looking, light-haired boy, aged sixteen, was admitted with illness of about two days' duration, attributed to cold, diarrhœa and abdominal pain being the symptoms chiefly complained of. He had a pulse of 108, respiration from 40 to 44, soon increasing to between 50 and 60. Some sonorous rhonchus was heard over the chest, and pleural friction over the right side. Although diarrhœa continued for some days, the character of the stools, the absence of spots, the course of his temperature, and the patient's aspect excluded specific fever. On the fourth day of admission, "obscure tubular breathing" was detected below the right scapular spine. In the course of the next few days there occurred, in addition, distinct dulness of the anterior chest on the left side from nipple almost to clavicle, with breathing of bronchial character (not distinctly tubular) in this situation also. Subcrepitant râles were now audible over both lungs posteriorly, while here and there, and especially over the two places just named, the respiration was of the same quasi-tubular kind, now more, now less marked. Respiration was from 50 to 60, pulse 130 and over, temperature hovering between 103° and 104°. Meanwhile the boy was becoming cyanotic in face, and suffered active distress for want of breath.

Such was the condition on the seventh day, and so matters went on with little progress one way or the other. With his cough, which at first produced watery blood-stained mucus, the boy now dislodged very imperfectly, from the lungs but not from the mouth, some viscid, sticky, quite uncoloured sputum, which at times almost threatened to choke him. And it was remarkable, and in strong contrast to the other patients during their pyrexial time, that this boy was, except at first, not affected, so to speak, in himself by this great occupation of his lungs. He looked and acted

as one with a local malady would do, rising to take his food, helping himself, expressing his wants so far as his breath would let him. Once, within a day or two of his death, he quickly covered with the sheet some sugar he was eating, lest it should be taken from him. You do not find patients with specific fever acting so; their senses are too blunted.

On the twelfth day this boy, who still continued markedly cyanotic and for many hours had been threatening to die of want of breath, was bled in the arm to five ounces with manifest relief. Half an hour after his respiration had fallen from 52 to 44, and pulse from 140 to 132. The benefit, however, as is too common, was only temporary. In eighteen days from his admission (kept alive so long, I believe, by very careful and assiduous nursing), he quietly died during sleep.

I must describe the post-mortem appearances in the same summary way as the case, so as merely to bring out their general features. The right lung weighed thirty-seven ounces and a half, the left twelve ounces. There were recent adhesions over both, by means of a glue-like material, which united also the several lobes to one another. In the left pleura was about half a pint of pinkish fluid, in which some shreds of flocculent lymph floated. Both lungs, on cutting, exuded much watery fluid. Both were semi-solid in places, the right the most. Bits, of the size of an orange and larger, selected as the densest and cut out, readily sank in water. Nowhere was there firm uniform consolidation or any considerable area wholly airless, although the amount of consolidation taken altogether was very considerable. The right side of the heart was distended with black clot. The intestines (unfortunately in regard to the early symptoms) were not examined. The kidneys, liver, spleen, &c., were healthy.

(To be concluded.)

OBSERVATIONS,

MACROSCOPICAL AND MICROSCOPICAL,

ON

THE MECHANISM OF THE SPONTANEOUS ARRESTMENT OF BLEEDING FROM DIVIDED VESSELS.

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To speak, first, of the suppression of hæmorrhage from arteries.

It is a matter of common observation to the surgeon that when an incision is made in the skin and subjacent cellular tissue bleeding does not instantly take place. With the exception of some bloody points, the surfaces of the wound appear at first rather blanched, and it is only after an interval of some seconds that blood begins to flow—that is, supposing there is no already existing congestion of blood in the vessels of the part, or that no large vessel has been implicated in the incision. The bleeding which does supervene, after continuing for some time, diminishes, and eventually ceases. The surfaces of the wound are then seen covered with flakes of coagulated blood; these adhere pretty closely to the surfaces of the wound, and if they be removed the bleeding is liable to break out afresh. When, instead of being an incised wound, it is a lacerated one, bleeding less readily takes place, if at all.

Of the phenomena just mentioned as presenting themselves immediately on the infliction of a wound, the absence of bleeding, or its inconsiderable amount at first, is that the nature of which deserves to be closely investigated. For this purpose I shall take the ear of the white rabbit as a first subject of investigation by observation and experiment.

A wound was made with the point of a lancet in the ear of a white rabbit, whereby an artery and a vein, together with capillaries, were divided. Very little blood escaped at first; but in the course of a few seconds bleeding occurred, which, after continuing for two or three minutes, ceased. This cessation of the bleeding was coincident with the coagulation of the blood which had escaped.

In another experiment the artery only was cut across, whereupon the column of blood in the vessel was observed to disappear, and no blood immediately escaped; but in a few seconds the red column again appeared in the artery, and blood flowed pretty freely from the end of the divided vessel next the heart. In a minute or two the bleeding stopped, and the column of blood within the cut end of the artery was now seen to be narrow, whilst further down towards the heart the column was observed to be broad.

It is to be remarked that the breadth, narrowness, or total temporary disappearance of the red column of blood in the arteries of the rabbit's ear are indications of dilatation or of constriction of calibre, and that even to closure of the cavity of those vessels, in consequence of relaxation in the one case, or contraction in the other, of their muscular walls. Keeping this in mind, we may say that the artery became constricted immediately on being cut across, but that by and by it became dilated, whereupon the blood flowed; the cut end, however, remained somewhat constricted and retracted within the sheath.

That the cessation of the bleeding in this case depended in a great measure on the coagulation of the blood at the cut end of the artery appeared from the fact that when the coagulated blood was wiped away the bleeding recommenced. It is to be observed, however, that the retraction and constriction of the cut end of the artery constituted the condition which enabled the coagulated blood more readily to collect and stop up the mouth of the vessel.

The following experiment shows that retraction of the cut end of the artery within its sheath, and constriction of the calibre of the vessel are, of themselves, sometimes sufficient to prevent any bleeding at all:—An artery near the root of the ear was cut across. Constriction of its calibre, as manifested in the manner I have before explained, immediately took place to a considerable extent in the direction towards the heart, so that no blood issued. Continuing to watch for two or three seconds, I saw that, though the vessel became dilated up to near the wound, it continued at that place still so much constricted that no blood escaped.

The ear of the white rabbit, though diaphanous, is too thick to permit of its bloodvessels, and the exact state of the blood therein contained, being subjected to microscopical examination. What I have said, therefore, comprises merely descriptions of such appearances as can be seen with the naked eye, and the inferences deducible therefrom.

To obtain more detailed insight into the process leading to the suppression or actual prevention of hæmorrhage from divided arteries, we must have recourse to microscopical observations on the web of the frog's foot. Such we need not be unwilling to accept in explanation of what goes on in the small arteries of the human body, for the numerous investigations which have been made of late years concur in proving that there is no essential difference in the phenomena under consideration as observable in detail under the microscope, in the frog's web, from the grosser manifestations visible to the naked eye, and which perfectly correspond with the appearances which we can observe in the human conjunctiva, for example.

An incision being made through the web of a frog's foot displayed under the microscope, dividing an artery, no blood flowed. The cause of this was distinctly observed to be constriction of the vessel on either side of the wound for some extent and to so great a degree that its cavity was for the time obliterated, and no blood passed through.

When an artery, then, is cut across in a wound of the web of the frog, it becomes so much constricted in its calibre by contraction of its muscular walls, excited by the mechanical irritation of the injury both above and below, that it is rendered impervious to the stream of blood in a greater or less extent on either side of the wound.

The constriction of the artery to complete closure by contraction of its muscular walls is not of long duration. These walls becoming relaxed, the vessel dilates, and in consequence of this blood again flows (I refer for the present to the segment of the artery next the heart) as far as the first collateral branch of any considerable size on the side of the wound next the heart, and the stream is by this channel diverted away from the cut end of the trunk. In some instances bleeding in small quantity does take place from the divided vessel. Usually, however, no blood escapes.

On examining the cut end of the artery with a high microscopical power to discover the cause of this, we see

that although the artery may be much dilated down to the wound, the surrounding tissue of its sheath has closed in around its retracted end, its orifice being at the same time constricted in a purse-mouth-like manner by contraction of the circular muscular fibres at the place. Sometimes there is a glomerulus of aggregated red corpuscles in the sheath, from within which the end of the artery has retracted, representing an external clot.

When blood does flow from the vessel on being cut the cessation of the bleeding is observed to be caused by a small quantity of coagulated blood, helping to stop up more fully the retracted and contracted mouth of the artery.

The blood contained in the artery from its closed mouth up to the collateral branch, by which the stream of blood is diverted from its old channel, I shall speak of under the head of internal clot. It may, however, be here mentioned that a glomerulus of aggregated red corpuscles just within the mouth of the vessel in some cases seems to contribute to the stoppage of the bleeding, but such belongs properly to the system of the external clot.

In regard to the segment of the divided artery on the further side of the wound, it also, as before mentioned, becomes constricted; but by and by it, in like manner, again dilates, and blood, much loaded with red corpuscles, enters it in a retrograde direction.

From the great quantity of blood, loaded with red corpuscles, which accumulates in the further segment of the artery, we can readily understand how, in the case of larger arteries, according to the late Mr. Guthrie's observations on wounds, the lower end should be more prone to secondary hæmorrhage than the upper; and how, on account of its retrograde and sluggish movements, the blood should be of a darker colour, and flow out in a continuous stream, in the some manner as water rises from a spring, and without any arterial impulse.

But to return to our observations on the frog's web. Sometimes bleeding takes place from the segment of the artery below the wound, but usually the surrounding tissue, as in the case of the upper segment, has sufficiently closed in around the retracted and contracted mouth of the artery to prevent that result. If not, the contracted mouth, both without and partly within, is afterwards stopped up by the aggregated red corpuscles, representing an external clot. The blood accumulated between the mouth of the vessel thus stopped and the next collateral branch below, by which the retrograde stream is diverted from the trunk, I shall speak of when describing that accumulated in the corresponding part of the trunk above the wound under the head of internal clot.

The description I have now given of the phenomena supervening on division of an artery of the frog's web is, I may remark, quite applicable to the phenomena which I have observed to supervene on division of an artery in the web of the bat's wing.

The observations and experiments now related show that from small arteries, when divided, no blood at all may escape, and that this is, in the first instance, owing to the contraction of the muscular walls of the vessel excited by the irritation of the injury, whereby its canal is closed to some extent, both above and below the wound. And though soon after this both segments of the artery become dilated again, their retracted mouths continue constricted, and the surrounding tissue of their sheath is so much closed in around them that blood is prevented from escaping, while collateral branches having become dilated, the stream of blood—direct in the upper segment, retrograde in the lower—is at the same time diverted away from the mouths of the divided trunk.

When a larger artery is cut across, the retraction of its ends within its sheath and the constriction of its calibre which ensue may not be sufficiently great to oppose the escape of blood. After a few minutes, however, the blood which has escaped coagulates in the wound, and the clot thus formed helps to stop fully up the retracted and contracted mouths of the vessel, and so hæmorrhage is arrested.

Leaving the suppression of hæmorrhage from the smaller arteries, when divided, and turning to the suppression of that from such as are of a large size, we come to a department of the subject which, from its very great and immediate practical importance, fixed the attention of surgeons at an early period.

Whilst some supposed that hæmorrhage was arrested by a coagulum of blood stopping up the mouth of the divided and bleeding artery, others maintained that the contraction of the divided artery itself is the means employed by nature in the suppression of hæmorrhage. A third opinion, in which the truth seems to lie, stands intermediate between, and combines these two partial and extreme views. It was thus enunciated by Sharp: "The bloodvessels, after division, at length contracting and withdrawing themselves into the wound, their extremities are shut up by the coagulated blood."

Hewson's opinion corresponded with that of Sharp, and is expressed with nearly equal terseness.

The exposition of the subject, however, founded on a connected series of investigations, was first accomplished by Dr. J. F. D. Jones in his work "On the Processes of Nature in suppressing Hæmorrhage from divided and punctured Arteries," published seventy years ago.

The action and even the structure of arteries, their sheath and the cellular substance connecting them with it, are, Dr. Jones pointed out, all concerned in the process of suppressing hæmorrhage.

"An impetuous flow of blood," said Dr. Jones, "a sudden and forcible retraction of the artery within its sheath, and a slight contraction of its extremity, are the immediate and almost simultaneous effects of its division. The natural impulse, however, with which the blood is driven on, in some measure, counteracts the retraction, and resists the contraction of the artery. The blood is effused into the cellular substance between the artery and its sheath, and passing through that canal of the sheath which had been formed by the retraction of the artery, flows freely externally, or is extravasated into the surrounding cellular membrane, in proportion to the open or confined state of the external wound. The retracting artery leaves the internal surface of the sheath uneven by lacerating or stretching the cellular fibres that connected them. These fibres entangle the blood as it flows, and thus the foundation is laid for the formation of a coagulum at the mouth of the artery, and which appears to be completed by the blood, as it passes through this canal of the sheath, gradually adhering and coagulating around its internal surface, till it completely fills it up from the circumference to the centre." "A coagulum then," continues Jones, "formed at the mouth of the artery, and within its sheath, and which he (Jones) distinguished in the experiments by the name of the *external* coagulum, presents the first complete barrier to the effusion of blood."

The retraction of the ends of a divided artery within its sheath here mentioned depends on the action of the longitudinal elastic fibres which form the inner layer of the outer coat of the vessel, while the contraction of the mouth of the artery is due to the action of the circular muscular fibres composing the middle coat. In consequence, however, of the proportionally less developed muscularity of the middle coat of large arteries than of that of small, the contraction is correspondingly less in large arteries. Hence the formation of an external clot plays a more important part in the suppression of hæmorrhage from large arteries when cut and left to themselves.

This difference between the larger and smaller arteries, in addition to their actual difference of width, is the cause why in the larger vessels a clot of a size sufficient to stop up the gaping mouth of the vessel takes a longer time to be formed, and why, consequently, the bleeding may not stop of itself before it has gone on to a dangerous extent.

The reason why bleeding from small arteries, when divided, more speedily ceases spontaneously than that from larger arteries, is that the heart's action operates less powerfully on the column of blood within them, and that the small arteries, as we have seen, having more contractile coats, become proportionally more constricted when cut across. The formation of a clot, therefore, of a size sufficient to stop the small orifice of the cut end of the artery, and arrest the hæmorrhage—all things being equal in respect to the state of the blood generally—more speedily takes place than in the case of a large artery.

While, therefore, hæmorrhage from small arteries may safely be left to subside of itself, that from large arteries requires the immediate application of the ligature.

(To be concluded.)

DURING the week ending the 2nd inst. nineteen cases of small-pox were under treatment in the Belfast Union Hospital, of whom fourteen had been admitted during the week. Four of these nineteen cases have already proved fatal.

ILLUSTRATIONS OF ANTISEPTIC SURGERY.

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No. II.—ON THE ANTISEPTIC LIGATURE OF ARTERIES.

Case of Traumatic Aneurism of the Brachial Artery; Ligature of the Brachial; Recovery.—M. R——, aged thirty-eight, a labourer in good general health, was admitted into the Glasgow Royal Infirmary on July 17th, 1876. The following report of his case was entered in the ward journal: On admission there exists a large and irregularly-shaped swelling at the lower and inner part of the left arm. It extends round the anterior aspect of the arm to its outer border, and posteriorly quite to the middle line. Its lower limit corresponds pretty accurately with the fold in front of the elbow. It measures vertically 3¾ inches, and transversely 7½ inches, these being respectively the longest measurements in either direction. The circumference of the limb, measuring over the most prominent part of the tumour, is 12¾ inches. Over the whole of the swelling there is well-marked distensile pulsation, entirely controlled by compression of the brachial artery. A very distinct thrill exists in the upper part of the tumour, and a loud, blowing systolic bruit. This thrill and bruit can be felt and heard in the course of the artery to some little distance beyond the upper limit of the tumour, or, in other words, to about the middle of the arm. Over this part of the vessel the pulsation is much broader than that of a normal brachial artery, and gives one the impression that it is due rather to a funnel-shaped prolongation upwards of the aneurismal swelling. A little pain is complained of in the back of the thumb and forefinger. About six months ago he was struck by a riveting-hammer in the situation where the tumour now exists. From that he dates his pain, and a few days afterwards he observed a slight swelling, which throbbed strongly. This increased slowly till a week ago, when it began to advance rapidly.

July 21st.—4.30 P.M.: Yesterday, at 3.30 P.M., Dr. Cameron put a prepared antiseptic catgut ligature of medium thickness round the brachial artery in the first part of its course, tying a single reef-knot with sufficient tightness to ensure division of the internal and middle coats, and cutting the ends short. The incision commenced in that part of the skin from which the axillary hairs grew, they being, of course, previously shaved. The operation was performed under the spray, and with all the usual antiseptic precautions. Drainage was provided for by means of a few threads of catgut similar to that with which the vessel was tied. The wound was dressed antiseptically. Immediately on the ligature being tightened all pulsation ceased in the tumour, and has not since returned. On being put to bed, the left hand and forearm were felt to be perceptibly colder than the right, and were wrapped in cotton-wool. Within an hour warmth had begun to return to the part. In the evening his pulse was 80, and he made no complaint except of heat in the left hand, which was perceptibly hotter to the touch than the other, and sweating freely. He slept well last night, and has no pain. Dressings changed under spray; wound promises to heal by first intention, and has drained well.

22nd.—10 A.M.: Slept well last night. Took porridge and milk with great relish for breakfast. Dressings changed. Some sero-sanguineous fluid, free from odour, in the dressings. Complete absence of pain, redness, or swelling near wound. Pulse 80; tongue clean. Since the operation he has had a little cough, and complains of some pain over the heart. To have a dose of castor oil.

23rd.—1.30 P.M.: Castor oil acted freely twice yesterday. He rested well during the night, and expresses himself as feeling very well. On dressing the wound it is found united throughout its extent, except where the catgut drain hangs out at its lower angle. The bloody serous discharge has quite ceased, and on the dressing there is only a moist stain of about the size of a florin, although it is evident that every drop of fluid exuded is draining freely from the wound. The limb is entirely free from any redness, swelling, or pain. No return of pulsation in tumour or at wrist. Dressings applied as before.

24th.—10.30 A.M.: Dressings changed on account of being rather loose. Discharge almost *nil*, and quite colourless. Catgut drain still holding. Aneurism firm, but not hard; and over its most prominent point the circumference of the limb measures 12½ inches, as compared with 12¾ inches on July 17th. Taking food with relish; tongue clean; pulse 76.

25th.—11 A.M.: Had some colicky pain in the bowels, followed by a little diarrhœa during the night. Ordered castor oil and laudanum. Dressings not changed.

26th.—9.30 A.M.: Diarrhœa has entirely ceased. Slept well, and took breakfast with relish. Has no complaint whatever. Wound dressed. Discharge almost *nil*—i.e., only a little dampness where the "protective" is in contact with the catgut drain, which is still holding. All the prepared silk stitches which were used to close the wound, except the one next the catgut drain, removed to-day. The orifice from which each was drawn was quite dry, and free from discharge. Pulse 68. Allowed to sit up in bed.

28th.—9.30 A.M.: Patient got out of bed this morning contrary to orders, but no harm has ensued. Dressings changed as usual. Only a slight damp stain opposite the catgut drain, which now looks as if it were on the point of separation. Patient perfectly well in every respect. Circumferential measurement of limb at site of tumour, 11⅞ inches.

30th.—12.45 P.M.: Wound dressed; the part of the catgut drain which was outside the wound had separated, and was lying loose except two strands, which, however, on being touched, fell off; remaining stitch removed and found quite dry. Wound from end to end remains a sound linear scar, except the small point where the drain had protruded. Aneurism now very firm, and measures 11⅛ inches in circumference. Patient allowed to get out of bed for a short time.

Aug. 3rd.—Noon: Wound dressed; a small spot, the size of a pin's head, where catgut drain separated, still uncicatrised. Patient's only complaint is a numbness in the thumb and outer side of the forefinger. He is out of bed a part of each day.

7th.—11 A.M.: Patient in perfect health; is up the greater part of the day, and eats and sleeps well. No pulsation yet at the wrist. Dismissed, but asked to return occasionally.

16th.—Faint pulsation in radial at the wrist. Circumferential measurement of tumour, 11½ inches.

24th.—Tumour 11 inches in circumference.

Sept. 10th.—Circumferential measurement not materially altered since last note. Vertical measurement, 3½ inches; transverse, 5½ inches.

16th.—Circumferential measurement, 10¾ inches.

Dec. 17th.—Has returned to show his arm. The swelling is gone, a little hard knot, about the size of a filbert, being the only remains of it. Measures 9¾ inches in circumference; the other arm at the same level 9½ inches. He has been working regularly since last report. Complains occasionally of numbness and coldness of the fingers.

Remarks.—In the above case two courses were clearly open to me—either, on the one hand, to lay open the aneurismal cavity, turn out the clots, and tie above and below the opening in the artery, or, on the other hand, to apply a single ligature at some little distance above the tumour. The latter mode of treatment possessed some attractions as compared with the former, but it also involved what, under the ordinary plan of ligaturing arteries, was a manifest source of danger. It was necessary, considering the height to which the pulsatile swelling reached in the arm, that the vessel be tied in the very commencement of its course, or, in other words, in the immediate vicinity of the point of origin of the superior profunda artery. Secondary hæmorrhage, not slow to occur during the process of separation of the ordinary silk ligature, even when favourably placed, is very prone to happen when a large artery is tied in close proximity to a considerable branch; and, had I been shut up, in the present case, to the use of the silk ligature and water-dressing, I should most undoubtedly have selected as the safer operation that of incising the tumour, turning out its contents, and ligaturing above and below the orifice in the artery. I chose the other procedure, however, because by means of antiseptic treatment the circumstances of the wound and ligatured vessel are entirely changed.

It is commonly believed and stated that hæmorrhage after such an operation as ligature of the femoral artery at the apex of Scarpa's triangle is due to an unhealthy state of the

wound, causing ulceration into the imperfect and softened structure of the vessel near the ligature. But that this is not the invariable explanation may be inferred from the fact that hæmorrhage very frequently bursts forth when the wound is in a state of perfect healthiness—so much so that the surgeon is from day to day congratulating himself on its progress. The fact is that the mischief does not always, or even generally, proceed thus from without inwards. More frequently the blood bursts forth because the arterial walls, especially when weakened or softened at any point, are unable to resist the force of the circulation when deprived of the support and buttressing of the surrounding tissues. This is corroborated by many clinical facts. Every ophthalmic surgeon knows, for instance, that if, during the extraction of cataract, a large amount of vitreous be lost, one thing which he has to dread is the occurrence of intra-ocular hæmorrhage. The retinal vessels, weakened it may be by disease at one or more points, lose a support upon which they depend for their integrity, and at once rupture under the distending force of the circulation. When a branch of the pulmonary artery courses along the side of a phthisical cavity, its now unsupported wall is apt to yield at one point, to form a little aneurismal expansion, to burst, and occasion a fatal hæmoptysis.[1] Hæmorrhage into the tunica vaginalis will sometimes follow the withdrawal of the fluid from a hydrocele of long standing. On one occasion it is found clear and pellucid as usual; a few weeks or months after, on the operation being repeated, both patient and surgeon may be surprised to find it of the colour of port wine or porter, and that without any injury having been received in the interval. The vessels of the tunica vaginalis have come to depend upon the presence of the fluid for support, and on its sudden withdrawal they yield and give rise to bleeding. Every surgeon is also familiar with an appearance which sometimes follows the removal of the dressings from large granulating surfaces, such as are the frequent consequence of burns and scalds. I refer to hæmorrhages which take place beneath the granulating layer, and rapidly raise it here and there into large and numerous dark-coloured, bloody tumours. This change is usually accompanied with sharp complaints of pain; and if we cut into the livid swellings or burst them, they are found to be filled with blood at so high a tension that it usually springs forth in a quick jet. In this case the mere withdrawal of the support of the bandage is a sufficient cause of rupture. Examples of this pathological fact might, no doubt, be multiplied in reference to small vessels; but it is interesting to know that even large and healthy arteries will yield to the blood-pressure when deprived of the support of the surrounding tissues upon which they have been accustomed to depend. Thus Benjamin Bell, in his System of Surgery (vol. i., chap. 4), when speaking of the production of aneurisms, remarks: "The bones, muscles, ligaments, &c., with which arteries are surrounded, all serve as a support to these vessels, so that it is not surprising that the destruction of any of these parts should tend to the production of aneurisms; and accordingly instances have occurred where affections of this kind seemed evidently to depend on such a cause. ..... In the thigh of a patient, where part of the muscles and other soft parts had been destroyed by an extensive mortification, different aneurismal swellings occurred in the course of the femoral artery, which had thus lost part of its support; and no other cause appeared to be concerned in their production."

Considerations of this sort convince us that the only certain means of preventing secondary hæmorrhage is to secure an immediate reconsolidation of the tissues which have been detached from the vessel at the ligatured point. But this is rendered impossible if the ligature (no matter whether silk or antiseptic catgut), holding in its noose a strangled and dead piece of the external coat, be imbued with the fluids of a septic suppurating wound; because in such case, until the slough and ligature separate and come away in the discharges, the weakened point of the artery (weakened by its walls being there converted into soft, imperfect granulation-tissue) must remain unsupported. The internal coagulum varies in amount; if in the vicinity of a large branch, it is often entirely absent, and at the best is not a complete safeguard against the force of the cardiac impulse. On the other hand, if an antiseptic catgut ligature be applied, and means be employed to avoid putrefaction occurring in the fluids of the wound, not only will the risk of ulceration from an unhealthy state of the wound be avoided, but the vessel will undergo no weakening at the spot tied, while it will be straightway reinforced by the union around it of at least the deeper portions of the wound.

This was the avowed object of Professor Lister in introducing the practice under discussion,[2] and it seems strange that the principle involved should have been so misunderstood or disregarded as to lead eminent surgeons, in testing the value of the catgut ligature, to associate it with water-dressing. Its virtues can, under these circumstances, only be recognised in those cases where the wound in its deeper portions at least chances to heal by first intention; but its advantages can be with certainty secured when the catgut is of trustworthy character, and the antiseptic principles of treatment inculcated by Professor Lister faithfully followed.

I have said above that when the catgut ligature is applied as indicated, the vessel undergoes no weakening at the spot. I might have said that it is, in reality, strengthened, since neither ligature nor contained slough produces any irritation at the part, but both become enclosed rapidly in the reunited tissues, and then are removed by absorption, and replaced by new living tissue which grows at the expense of the dead. Moreover this new tissue is formed on the pattern and mould of the ligature which is being absorbed, so that after the lapse of some time it may be literally said "to be transformed into bands of living tissue."[3] In this, as in other cases of aseptic wound, Professor Lister has observed that "the dead, but nutritious mass, serves as a mould for the formation of new tissue, the growing elements of which replace the materials absorbed, so as to constitute a living solid of the same form."[4] The same observation has been verified by Mr. James W. Fleming.[5] He placed antiseptic catgut amongst the tissues of living dogs and rabbits. At the expiry of a month or so, he killed the animals by bleeding, and injected the abdominal aorta with Prussian blue. Subsequent examination of the state of the catgut led him to the conclusion that "it ultimately may be described as a cast of the catgut in a kind of granulation-tissue freely supplied with bloodvessels, which, in many of my sections, are very fully injected."

If a pair of woollen stockings be constantly worn into holes at different parts, and these holes be always darned with silk, the pair of woollen stockings may ultimately be converted into a silk pair of much the same size and shape as the original. So the dead catgut may be replaced by living tissue, but with this important difference, that it "serves as pabulum for the surrounding living parts, which remove it by a sure process of absorption."

Glasgow.

[1] Such specimens are, I believe, not rare. A very beautiful one is contained in the pathological museum of our infirmary, Series iv., 25.

[2] Observations on Ligature of Arteries on the Antiseptic System, THE LANCET, April 3rd, 1869.
[3] Ibid. [4] Ibid. [5] THE LANCET, 1876.

THE FUNCTIONS OF THE FRONTAL LOBES OF THE BRAIN, AS ILLUSTRATED BY A CASE OF INJURY.

BY FREDERICK TREVES, M.R.C.S.

A QUARRYMAN, aged twenty-six, strong, healthy, and well developed, was admitted into the Wirksworth Cottage Hospital on June 29th, under the following circumstances. The patient, while engaged with a gang of men in cutting a tunnel through the limestone, was struck with great violence on the forehead by a small stone projected from a blast. He was seventy-two yards from the heading at the time the blast was fired, and the stone that struck him was stated to have been about the size of a small hen's egg.

He at once fell to the ground, but appears to have been in no way stunned, nor rendered even for a moment insensible. Before he rose to his feet he groped about for a candle that had fallen from his hand, and having found it, insisted on standing aside to allow a locomotive to pass before he would leave the tunnel, declaring that he was only slightly hurt. He then walked to the mouth of the tunnel, a distance of about one hundred yards, and ascended a steep flight of steps on to the roadway. It was here that I first saw him,

and for the remainder of the distance to the hospital he was carried, although he over and over again protested that he was quite able to walk. When examined, within twenty minutes of the accident, the man was quite sensible, and answered every question in a perfectly intelligent manner. He complained of pain in his head, and frequently pressed his hand to the seat of injury. On the forehead there was a clean-cut wound of angular shape, commencing at a point about a quarter of an inch above the middle of the right eyebrow, running inwards parallel to the eyebrow as far as the middle line, and then extending obliquely upwards for about an inch and a half. It exposed a severely comminuted and depressed fracture of the frontal bone, the fragments being driven in a considerable depth. These were at once removed. Twenty-six small pieces were thus taken away, the largest of them being about the size of a shilling, and formed of the central portion of the frontal bone, grooved exactly in its middle by the commencement of the superior longitudinal sinus. A piece of the left orbital plate, about the size of a sixpenny-piece, was also found quite loose, and removed. The dura mater was exposed to about the extent of one square inch or more, principally on the right side of the middle line; it was intact, save about its attachment to the crista galli, where was a horizontal tear of about an inch in length, principally of the right portion. The longitudinal sinus was torn across at its commencement, and bled very freely. A small portion of brain, about the size of a pea, escaped from the right corner of the wound. The removal of the fragments was at first attempted without chloroform, but the patient appeared so sensitive that a small quantity was administered. He came rapidly under its influence, and as rapidly regained consciousness when the operation was completed. There was no other injury of any kind. Both eyes appeared quite uninjured, patient's vision was perfect, the pupils were equal, of moderate size, and contracted readily by light. He had perfect use in every limb. A little wet cotton-wool was placed in the wound to check the rather free bleeding, the head shaved and cold ordered to be constantly applied. The accident happened at 5 P.M. During the first few hours of the night the patient appeared to sleep comfortably, but about midnight he became very restless, made frequent attempts to get out of bed, and to remove the dressings. He was forcibly retained in bed, and struggled a good deal, imploring to be "let loose." Towards morning he became vaguer in his utterances; he answered some questions correctly, and recognised those around him, but appeared to be under the impression that he was at work in the tunnel or at home with his wife, and his remarks would be varied accordingly. He vomited three hours after admission, and during the night passed a very large quantity of pale-coloured urine. He called for the utensil every time he wished to micturate, and was perfectly conscious of the act. The bowels were opened by an enema.

June 30th.—Patient much quieter during the day, drank a fair quantity of mik, and during this and subsequent days nutrient enemata were frequently administered; bleeding quite ceased, but disorganised brain-matter began to escape from wound, which was simply covered with a piece of wet lint; patient was still a little restless, answered when addressed, but his answers were for the most part incoherent. At times he appeared to recognise those around him, would frequently attempt to place his hands to his head, and would clamour to be "let loose" if his hands were held. The bowels were opened naturally, and much clear, pale urine passed, at first consciously, but towards evening unconsciously. Breathing more rapid, but regular and thoracic. Pulse 100, and full; both eyelids closed, the left much ecchymosed and swollen, the right less so; conjunctivæ normal; pupils equal, normally dilated, and responded to light; eyes directed straight forwards; would open eyes voluntarily at times when addressed. Perfect use in all his limbs, and perfect sensation in all parts. During the day the patient frequently turned over on his right side, and would constantly turn his head to the right, never to the left. It was ascertained that he usually lay on his right side.

July 1st.—A great deal of brain-matter escaped during the night, according to the nurse's estimate "an egg-cup full." Patient apparently quite insensible. Respiration 36, thoracic and regular; pulse 140; temperature in the morning rose to 102°, and in the evening to 104°, after which time it steadily declined. Patient never spoke after this morning, but would constantly give vent to incoherent sounds, frequently reiterated, and that might be expressed as "Ti, ti, ti." Eyes suffused; pupils both of fair size, right, however, smaller than left; both slowly contracted by light. On suddenly lifting up the lids the eyes were seen to be directed forwards, but on the lids being held up some few seconds, they moved laterally in both directions, but never either in an oblique or vertical direction.

2nd. — Patient remains now moderately quiet; at times, however, tossing about or drawing up his legs. Disorganised brain-substance still escaping by the wound. No loss of power in any limb. The left forearm was to-day noticed to be always kept in a flexed position, so as to bring the palm of the hand on the abdomen; and, however often removed, it would, after a time, invariably regain the same position. No such peculiarity was noted in the right arm. There were no movements of the left hand. At 3 P.M. twitchings or convulsive movements commenced in the left platysma and muscles connected with the hyoid bone. The mouth was drawn wide open, the angle of the mouth retracted, and the tongue would be alternately protruded and retracted; when protruded, the tip would just project beyond the teeth, but no further. These muscular movements in no way affected the position of the head, and the sterno-mastoid and larger muscles were quiescent. There was not the least movement of the facial muscles; the eyes remained closed, the lids being still swollen. These twitchings came on at first about every ten or fifteen minutes, and would last a few seconds, but towards evening they became more frequent. The patient has been unable to swallow since last night, the fluid appearing to choke him and to produce violent cough. There was chemosis of the left conjunctiva, and both eyelids were still swollen. The pupils were both of fair size, the right being more contracted than the left; they slowly responded to light, and the right eye moved laterally on the lid being kept up. In the left eye the great swelling of the conjunctiva no doubt rendered movement of the ball impossible. No nystagmus. On being irritated in any way, the patient would utter inarticulate sounds, bring his right hand to his forehead, and draw up his legs.

3rd. — The left arm is now quite powerless, and was noticed to have been so since about 10 last night. There is perfect use in all the other limbs, and the legs are kept constantly drawn up. The patient is quiet, but still utters noises when irritated, as if attempting to speak, and puts the right hand to his forehead. Both pupils are somewhat contracted and equal, respond very slowly to light on keeping up the lid, and if the lids are kept up for a few moments marked nystagmus of both eyes to the left side; the chemosis of the left eye has considerably subsided, and towards night had almost disappeared. At night the pupils were about the same size as in the morning, but no longer reacted to light. On ammonia being placed to the left nostril, the patient evinced much discomfort, but when brought to the right nostril no effect was produced. The patient could breathe equally well through either nostril, but, although he had not bled from the nose, the cavities seemed somewhat blocked up, and the symptom therefore may be of no great value. The patient is still passing large quantities of pale urine. Pulse much feebler; respiration is now hurried and laboured; mucous râles over the greater portion of the chest; frequent cough; there is a constant movement of the larynx up and down until the obstruction in the throat is got rid of, the secretion being swallowed when coughed up. By night the breathing had become quite abdominal, and remained so until the time of death. The twitchings of the muscles of the left neck continued during the day, coming on nearly every five minutes, and during the day there was also distinct action of the left zygomatici, the angle of the mouth being drawn up so as to expose the upper teeth. No other facial muscles were affected to the least extent. These twitchings appeared to be unconnected with the muscular movement in the neck; still there was perfect use in the right arm and both lower limbs. The legs are kept drawn up, and if extended will, after a time, again resume the flexed position. Brain-matter continues to escape from the wound, but at no time has there been any great protrusion or hernia cerebri.

4th.—During the afternoon there were two convulsions of the entire body, excepting the left arm, which remained quite still. The nurse states that both sides of the face were twitched, little or no matter escaping from the wound. The muscles of the neck are continually being convulsed, and the mouth is kept open. During the convulsions also the mouth was wide open, and the tongue alternately protruded and

retracted. Since last night the eyes have been kept wide open, the swelling of the lids having almost quite subsided. The pupils are equal, slightly contracted, not responding to light, and the nystagmus is now scarcely apparent. During the night the patient had several slight convulsions of the entire body (the left arm excepted), the mouth being kept wide open. There was spasmodic action of the orbicularis and other facial muscles, but the eyes were never closed; no movement of the eyeballs was detected. Up to this evening (when sensation was last tested) the patient appeared to have good sensation in all parts, and prickings of the left arm, although it caused no movement in that limb, produced on each occasion reflex movements in other parts of the body, and signs of distress. The patient gradually sank, and died at 7.30 on the morning of July 5th.

(To be concluded.)

CASE OF MALPOSITION OF THE AORTA, DUE TO RICKETS, SIMULATING ANEURISM.

BY BYROM BRAMWELL, M.D.,
PHYSICIAN AND PATHOLOGIST TO THE NEWCASTLE-ON-TYNE INFIRMARY, JOINT LECTURER ON CLINICAL MEDICINE AND PATHOLOGY IN THE UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, NEWCASTLE-ON-TYNE.

IN his most interesting clinical lectures on diseases of the heart, Dr. G. W. Balfour describes some cases of malposition of the aorta, due to rickets, simulating aneurism. The following is a typical example of that condition.

W. W——, aged forty-six, an engineer, was admitted to the Newcastle-on-Tyne Infirmary under my care on June 10th, 1875, suffering from orthopnœa and general dropsy.

Previous history.—He enjoyed good health until he was thirty-five years of age. He was then laid up with bronchitis and pleurisy. The bronchitis has returned every now and again since. The present attack commenced three months ago with cough and expectoration. He has been confined to bed for seven weeks. Dropsy set in six weeks ago. His spine has been very much curved since he was a little boy.

Condition on admission.—There is great general dropsy. He is very short of breath. The face and upper extremities are markedly cyanotic. The external jugular veins are distended. The root of the neck looks swollen, and there seems to be a constriction at the upper part of the thorax. The chest is prominent in the front, more so on the left than on the right side. The spine in the lower cervical and upper dorsal regions is very much curved. The direction of the curvature is forwards, and to the right. The præcordia is prominent. Dull heaving pulsation is felt all over the area, and in the second and third intercostal spaces both to the right and left of the sternum. There is strong pulsation in the supra-sternal notch. The pulsation is most marked in the second left intercostal space just outside the sternum. There is marked dulness on percussion over the manubrium, and on both sides of it, over the area of pulsation described above. The area of cardiac dulness is considerably increased, measuring four and a half inches transversely. On auscultation over the manubrium, and area of pulsation to the right and left of it, the cardiac sounds are heard, valvular and superficial in character, the second being decidedly accentuated. These characters are most marked over the area of maximum pulsation in the second left intercostal space. At the cardiac apex the sounds are normal. The radial pulse numbers 120. It is regular, very much weaker in the left than in the right wrist. Respiration in the left lung is weaker than in the right. Bronchitic râles are heard all over the chest, and there is some dulness over the bases (hydro-thorax). With the exception of the venous obstruction already described, there are no other pressure signs. There never has been any pain.

It is unnecessary to give the daily progress of the case. Suffice is to say that the patient gradually got worse, and died on June 16th.

Autopsy, twenty-one hours after death.—The anterior curvature of the spine was very great, the distance between the second right sterno-costal articulation and the spinal column being only one inch and a half. All the structures passing in and out of the superior outlet of the thorax were compressed. The aorta was displaced towards the left. The œsophagus passed tolerably freely along the left side of the projecting vertebræ. The pericardium was universally adherent, the adhesions being recent. The heart weighed fourteen ounces and a half. The aortic valve was slightly incompetent, and was covered with minute vegetations. The aortic arch was normal. The lungs presented the ordinary appearances seen in acute bronchitis. There was a considerable amount of serous fluid in each pleural cavity. There was no apparent cause for the inequality of the pulses, or for the inequality of the respiratory murmur on the two sides.

Newcastle-on-Tyne.

THE RATIONALE OF THE MENSTRUAL FLOW.

BY G. ALDRIDGE GEORGE, L.R.C.P. LOND., M.R.C.S.,
LATE SHARPEY SCHOLAR AT UNIVERSITY COLLEGE, LONDON.

THE occurrence of the menstrual flow, although a phenomenon that has excited much interest and been the subject of numerous speculations, is still, I believe, without an accepted explanation. That being so, I am induced to suggest an explanation that appears to me to have enough of probability about it to justify me in submitting it to the judgment of the profession.

In the human economy, during infancy, childhood, and youth, the power of elaborating and assimilating nutritive material is very great; and this is so because the body has not merely to be sustained, but to be supplied with materials necessitated by its growth in size.

The female infant at birth usually weighs less than the male. The woman (as far as capacity for procreation is concerned) is complete at an earlier age than the man. The growth of the girl during the seven years before puberty is usually more rapid than that of the boy. From these facts it appears that nature endowed the female with more rapid powers of growth than the male, that her blood-making apparatus is relatively more productive, or that the demands of her system other than for growth are relatively less than in man. Why is this? Is it not probable that this is in view of the great demands on the nutritive and assimilating organs that will be made during the periods of pregnancy and lactation? When the girl arrives at commencing puberty the rate of growth is usually much lessened, and at first the lessened demands of the system generally are supplemented by demands for the special organs concerned in reproduction and lactation; but on the completion of these organs, the powers of the blood-making apparatus continuing the same whilst the demands on the blood are lessened, there obtains a state of increased tension in the bloodvessels which gradually becomes greater. This increase of tension is followed by certain results—viz., the headache, sense of fulness and heat in the loins and back, weight and tension of the breasts, that are connected with the appearance of the flux. Probably it is one of the principal causes of the congestion of the uterine vessels, the rupture of the Graafian vesicle, and of the turgidity of the Fallopian tubes.

Dr. Fothergill says, speaking of hæmoptysis: "Under one set of circumstances hæmoptysis occurs as a sort of leakage. In these persons there is a tendency to make blood rapidly, and then *the weakest spot in the vascular system gives way.*" Now, in these young women who are making blood rapidly, the lining mucous membrane of the uterus, considering its functions and its recent increased development, may be supposed to be the weakest spot of the vascular system. When the blood-tension reaches a certain limit the delicate capillaries rupture, the tension and local congestion are relieved, a few ounces of blood are lost, the proper equilibrium is restored, which restoration is synchronous with the disappearance of the unpleasant symptoms before mentioned.

When conception has taken place there is an outlet for the surplus of nutritive income over expenditure in the growth of the fœtus and uterus, and a similar outlet also exists during lactation, so the occurrence of menses during lactation is a comparatively rare event.

When a woman is in an unhealthy condition, such as

commencing phthisis, often the first thing complained of is the non-appearance of the accustomed flow. Here the cessation must be considered as indicating a failure of the powers of nutrition, with deficient blood-making leading to insufficient blood-tension. Nature cannot now afford to be prodigal of her strength. She needs all her resources for the conservation of the individual.

Again, at the menopause, normally the flux appears at first in less quantities or at longer intervals. The blood-tension is lessened by the commencing failure of the apparatus of nutrition, so that the excess of income over expenditure is decreased. But there is still a surplus, and its existence is indicated by the fact that the majority of women become stouter after the climacteric period is passed.

Dorchester.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

SEAMEN'S HOSPITAL, GREENWICH.

ANEURISM OF THE ULNAR ARTERY; LIGATURE OF THE BRACHIAL ARTERY; RECOVERY.

(Under the care of Mr. N. DAVIES-COLLEY.)

SPONTANEOUS aneurisms of the arteries of the forearm are very rare, and those which have been recorded seem to have been always associated with heart disease. The following case was no exception to this rule, and resulted, in Mr. Davies-Colley's opinion, from the impaction of an embolus. It is advised by some surgeons to treat such cases by laying open freely the sac, because it is thought that the free anastomosis of the arteries in this region would render Hunter's operation useless. In this case such a procedure would have been a very severe and dangerous one. Mr. Davies-Colley observed that he would always be disposed, where the sac is deeply seated, to try first the ligature of the main artery at some distance above the swelling. A great part of this report was prepared by Mr. Frederick Shann, the house-surgeon, to whom we are indebted.

John F——, aged twenty-five, was admitted on Oct. 13th, 1877. For the last year he had been at sea as a ship-steward; previously he was for seven years in a telegraph manufactory. He had suffered as long as he could remember from disease of the heart. His mother told him that his heart always beat rapidly, and he had always been short-winded. During the last four years he had been much troubled at times with palpitation. Last July he had pain and swelling in the upper part of the right forearm. Hot fomentations and poultices were applied, and in fourteen days the symptoms subsided. Ten days before admission, without injury or any other apparent cause, he began to have similar pain in the upper part of the left forearm; two days later swelling commenced, and gradually increased up to the time of admission.

On admission, the patient was rather undersized, thin, and of an anxious expression. The heart was greatly hypertrophied, and the pulse was of a decidedly "waterhammer" character. A murmur could be heard all over the chest, and even as low as the lumbar region. There was a systolic and diastolic aortic, as well as a systolic mitral, bruit. A prominent pulsating swelling occupied the upper third of the left forearm, especially on its radial side. A bruit was distinctly audible over it. A mixture containing tincture of perchloride of iron and digitalis was ordered.

On the 15th Mr. Davies-Colley saw him for the first time. The forearm was much swollen at its upper third, red and œdematous, so that the first impression was that of a phlegmonous inflammation. This opinion was somewhat favoured by the absence of a definite boundary to the tumour. Closer examination, however, soon showed that the whole swelling expanded with each pulsation. This expansion could be felt from immediately below the bifurcation of the brachial artery to four of five inches lower down. It was at first thought that the aneurism was upon the radial artery, because the swelling became larger as it approached the radial border of the forearm. Subsequently, however, it was found that there was no pulsation in the ulnar artery at the wrist, whilst that of the radial artery in the same situation was quite normal. The fluid was moreover covered by a thicker layer of muscles than was consistent with the comparatively superficial position of the radial artery. The greatest girth of the left forearm was 10¾ inches, while that of the right was only 9 inches.

An attempt to control the pulsation by flexion was so painful that it could not be borne. The forearm was then elevated, and pressure applied by tourniquets to the brachial artery. This method of treatment having been found painful, and often inefficient, on the 19th digital pressure was employed for twelve hours, and he had digital pressure for three days consecutively for twelve hours a day. On the 22nd pulsation was somewhat less forcible, and the swelling was harder. The circumference of forearm was 11¼ inches. The man complained of considerable pain in it at night.

With the exception of one day, digital compression was applied for twelve hours daily until the 27th. The stoppage of the brachial artery was not always complete, as it was difficult to prevent the vessel from occasionally slipping from beneath the fingers.

On the 27th the swelling was not diminished in size, the forearm being still 11¼ inches in circumference. As the man began to find the treatment painful, and as there appeared to be danger of the swelling becoming diffused, ligature of the brachial artery was advised. The man objected to the use of an anæsthetic, on account of his diseased heart, and Mr. Davies-Colley therefore operated upon him without chloroform, and placed a strong catgut ligature on the brachial artery halfway down the arm. Carbolic spray was used, two silver sutures inserted, and a dressing of carbolic gauze applied. He seemed to suffer but little during the operation, and said that by far the most painful part of it was the incision through the integuments.

On the 29th the wound was dressed for the first time. The circumference of forearm was eleven inches. Pulsation could be felt as low as inner condyle, but none in aneurism.

On Nov. 5th the third dressing was performed. There was no discharge, and the sutures were removed. The circumference of forearm was 10½ inches.

On the 12th the wound, which had appeared to be united by primary union, had opened, and was now about one inch long by a third of an inch broad, and covered by healthy granulations. The circumference of forearm was ten inches.

On the 19th pulsation was noticed in radial. After the 29th the wound was dressed every three days. The circumference of forearm was nine inches.

It was not until December 21st that the granulating surface was completely healed over. No part of the catgut ligature came away in the discharge. During the greater part of the time the patient was in the hospital he suffered from throbbing headaches, and his evening temperature was usually observed to be two or three degrees above that in the morning. When he went out the aneurism had shrunk up to a small, firm knot deeply seated among the muscles, and the circumference of the forearm had been reduced to eight inches and three-quarters. All pain had left the limb, and the movements were as free, though not yet as strong, as they had ever been.

WEST LONDON HOSPITAL.

THREE CASES OF FRACTURED PELVIS, WITH LACERATION OF A LARGE VESSEL.

WE are indebted to Mr. Henry Owen Lucas, house-surgeon, for the notes of this interesting series of cases.

CASE 1. *Fracture of pelvis; wound of right internal iliac vein.*—Thomas R——, aged thirty-six, was admitted on Oct. 29th, 1877, at 5.30 P.M., and died at 6.30 P.M. He had been run over by a heavy waggon. On admission he was in a state of cold perspiration; breathed in a heavy sobbing manner. He gradually sank.

Post-mortem examination.—All the internal organs were healthy. The pelvis and lower part of the abdomen on right side were filled with blood clot. The sacrum was partially dislocated from spine and right os innominatum, and at the latter point there was also a fracture, the sharp

end of which had perforated the right internal iliac vein, causing the hæmorrhage.

CASE 2. *Fracture of pelvis; division of right external iliac artery.*—Henry M——, aged twenty, a railway porter, was admitted Jan. 13th, 1878, at 1 A.M., and died at 7.30 A.M. He had been run over by a train. On admission he was found to have a compound fracture of humerus, compound fracture of tibia and fibula, and fracture of pelvis; he was partially unconscious and violent up to within a short time of death.

Post-mortem examination. — The internal organs were healthy. There was a considerable amount of blood clot on right side of pelvis. There was fracture of the crest of right ilium, almost separating it from rest of bone, and also fracture of ramus of left pubis. On the right side there was a fracture of pubis close to its junction with iliac portion of bone; the sharp end of this fracture had entirely divided the external iliac artery, the ends of which were retracted and surrounded by half-defibrinated clot, which had evidently to some extent controlled the hæmorrhage.

CASE 3. *Fracture of pelvis; laceration of left external iliac vein.*—Thomas N——, aged forty-three, butler, was admitted on Feb. 8th, at 5 P.M., and died at 8.15 P.M. He had been run over by a van filled with heavy luggage. On admission he was insensible, had compound fracture of left elbow-joint, and fracture of pelvis.

Post-mortem examination. — The internal organs were fairly healthy. The pelvis was filled with blood. There was fracture of ramus and body of pubis on both sides; separation of sacrum from left os innominatum. There was also fracture of left ilium, the fracture extending across the pectineal line, and causing laceration of left external iliac vein.

In all these cases the immediate cause of death was internal hæmorrhage, which occurred comparatively gradually considering the size of the vessel injured. In none of the cases was the urethra ruptured.

LIVERPOOL NORTHERN HOSPITAL.

FRACTURE OF SKULL, WITH DISCHARGE FROM EAR.

(Under the care of Dr. CAMPBELL.)

FOR the notes of these cases we are indebted to Mr. James Allan, house-surgeon.

A. H——, aged twenty-two, sailor, admitted Dec. 1st, 1877. Three days before admission he fell headlong on the deck of his ship, a distance of fourteen feet. Blood immediately issued from mouth and nose, but not from ears. From the right ear, however, a clear fluid began to flow, and continued in considerable amount up to the time of admission. He was insensible for a short time after the accident.

On admission he was quite sensible. Examination of head showed a small compound depressed fracture of the frontal bone on the right side posteriorly. A clear fluid issued from the right ear at the rate of over a pint daily, and gave copious precipitate with nitrate of silver; hearing on right side impaired. The pupils were dilated, equal, normally sensitive; there was double vision. Pulse 48, moderate volume. Bowels constipated; urinary function not affected.

Next day the pulse was 60; respiration 18; temperature 99°. On Dec. 3rd the fluid ceased to flow from the ear. On Dec. 5th he became very troublesome, shouted, and tried to get out of bed. Chloral and bromide of potassium were ordered. On the 8th discharge from right ear recommenced, but was not so copious as before. Two days after he had excessive pain in both ears. On the 11th he was very noisy, and towards evening suddenly became comatose, and died quietly; the heart continued to beat for a considerable time after respiration stopped. The discharge from ear continued till death. No paralysis was developed; temperature did not rise above 99°, except on the 10th, when it was 102°, and on the 11th, 100°. He had milk and beef-tea. The medicines were chloral and bromide, and occasionally jalap and calomel powders.

Post-mortem examination, twenty-four hours after death.—There was a wound about an inch long, running from before backwards, just below the right anterior part of the right temporal ridge. This wound was over a small saucer-shaped depression, three-quarters of an inch in diameter. A fissure commenced at the posterior part of the depression, and ran obliquely downwards and backwards through the squamous portion of petrous bone, and also through the petrous portion, implicating the internal auditory meatus. The fracture was attended by separation of the bones from each other to the extent of one line and a half at one part. On the brain aspect of the depressed fracture there were sharp spicules of bone surrounded by a large clot, apparently recent, pressing on and depressing inwards and downwards the middle and third right frontal convolutions. Hæmorrhage entirely outside the dura mater; no injury of the brain, no softening opposite the clot. The brain-mass throughout was very firm; vessels congested. The membrana tympani on right side was open.

ACUTE RETROVERSION OF UTERUS.

C. H——, aged thirty-one, married, a multipara, three months pregnant. On the 10th October, 1877, at mid-day, after usual housework, scrubbing, &c., she first noted retention of urine. A very small quantity of urine could be passed with violent straining. On the night of the 10th she experienced great pain over the hypogastric and iliac regions, great bearing down, and feeling of weight pressing on perineum. Nausea and retching commenced next morning. She continued in this state up to the time of admission on the 16th Oct. Before admission she was said to have been seen by a medical man.

On admission, examination showed a large, tolerably firm tumour pressing the posterior wall of the vagina against the pubic bones; a finger could not be passed between the pubic bones and the tumour, but could be introduced to some extent laterally; the os uteri could not be felt. The abdominal swelling simulated the pregnant uterus of the seventh month, except that it was more mesial, the lateral aspects of the abdomen being clear on percussion. There was great pain and difficulty in defecation. The patient had a urinous odour. Five pints and a half of dark-coloured urine were drawn off.

She was very thirsty during the night, and drank a large quantity of milk and water. Next day there was still complete retention; three pints and a half were evacuated by catheter. The catheter was used at night, and again on the morning of the 18th. Retention was still complete. On the 18th the patient was put under chloroform, and the diagnosis was confirmed. The tumour was easily replaced; the pelvis very roomy. She could pass water without difficulty after replacement of the uterus. On the 24th the relations of the uterus were normal; there was no bad symptom. Discharged.

On Jan. 10th, 1878, she was doing well and was pregnant.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

THE annual meeting of this Society was held on the 1st inst. The President, Dr. Charles West, took the chair at 8 P.M., and the ballot for election of officers and Council for 1878–79 was immediately opened, Dr. C. Fish and Mr. E. Newton being nominated by the president as scrutineers.

The abstract of the income and expenditure of the Society for the year 1877 was taken as read, and the hon. secretary, Mr. J. W. Hulke, then read the report of the President and Council, which gave the usual details as to the numbers and position of the Society. The deaths, which had been 12 in number, comprised 2 hon. fellows, 5 resident, and 5 non-resident fellows. There were 27 new fellows, of whom 24 were resident; the total number of fellows, honorary, resident, and non-resident, having risen from 651 to 665. The receipts exceeded those of the previous year by about a hundred pounds; but the year having commenced with a deficiency instead of the usual balance in hand, the available income was slightly less. The expenditure also was less. The balance in hand was £33 19*s.* 3*d.* The report then gave some details of the founding and settlement of the regulations of the Marshall Hall Memorial Prize, and stated that the Council recommended to the Society that the prize should be awarded to Dr. John Hughlings Jackson for his investigations into the Pathology of the Nervous System.

The Committee on Membranous Croup and Diphtheria were still engaged in sifting the material in hand, and their final report would not be long delayed. The Council recommended that a slight change should be made in the days of meeting. In the old arrangement the meetings had been held from November to June; in 1871, an alteration had been made to October to May. It was now recommended that the meetings should be held from the fourth Tuesday in October to the second Tuesday in June.

The Hon. Librarians gave their annual report as to the increase of the library, the number of works added last year being 443, and they stated that the new catalogue and index were making progress through the press, and would probably be in the hands of the Fellows in the course of the year.

The adoption of the report (subject to a distinct motion on the paragraph relative to the alteration of the times of meetings, which involved an alteration in the bye-laws) was moved by Mr. Charles Hawkins, and seconded by Dr. Buzzard, who especially referred to his gratification at the excellent adjudication of the Marshall Hall Prize, and was carried unanimously.

The alteration in the bye-laws relative to the proposed change in the days of meeting was moved by Mr. COOPER FORSTER, and seconded by Mr. SPENCER WELLS.

The SECRETARY (Dr. John Harley) explained the reasons which had led the Council to adopt the recommendation in the report, among which were the injurious effect of too early a commencement of the session in diminishing the numbers present at the first meeting, and an increase of the difficulty always felt by the secretaries in obtaining papers at that period.—Mr. COOPER FORSTER, in moving the alteration, suggested that some of the papers in excess at the end of one session might be held over to supply the probable deficiency at the commencement of the next.—Mr. CURLING stated that one objection to the change would be that it would throw the consideration of some of the papers by the Council to a late period of the summer, when the meetings were not well attended; and Mr. THOMAS SMITH referred to the small attendance at meetings in June, which, however, was stated by the Secretary to afford a larger average than October meetings.—The motion was carried by a considerable majority.

The PRESIDENT then called upon Dr. Hughlings Jackson to come forward to receive the diploma of the Marshall Hall Prize, and addressed him in the following appropriate terms:—"Dr. Hughlings Jackson: I could have wished that for this night at least the chair might have been occupied by another than myself, so that you might have received your well-won honour from the hand of one who had himself gathered laurels in the same field as you. But as this cannot be, I have at least the satisfaction of assuring you how much I am your debtor for the light you have thrown on my path in the daily practice of my profession; how often I have found your doubts worth more than many another man's assertions; how, even when I have hesitated to adopt your conclusions, it has been with the feeling that probably you were right and I was wrong, that your keener insight had shown you clearly facts the outline of which seemed to me still blurred and indistinct. Though all the Fellows acquiesce in the justice of the Council's award, it is yet, perhaps, fitting that I should mention the three chief grounds on which that award was made. 1st. Your contribution to the increase of our knowledge of aphasia, and to the increased certainty of that wonderful discovery by which we are now enabled to localise the power of intelligent articulate speech in a certain district of the brain. 2nd. Your careful clinical observations on epilepsy, and the light you have thereby thrown on many points connected with the structure and functions of the brain. 3rd. Your researches with the ophthalmoscope, that instrument by means of which we see through the eyes as through windows to the brain. I hope, in time, we may arrive by its means at something approaching that certainty of diagnosis which auscultation has enabled us to attain in diseases of the chest. In handing to you this diploma, which records your selection as the first Marshall Hall prizeman, I need not urge you to continue your investigations with the same diligence as heretofore, for 'the labour we delight in physics pain.' But do it with the same absence of self-seeking as has characterised your work hitherto, and you will continue to enjoy still the rare good fortune of praise without detraction, of honour without envy."

Dr. HUGHLINGS JACKSON, in receiving the diploma, briefly replied, thanking the President and the Society for the very high honour conferred upon him, an honour which, above all things, would stimulate him to further exertions.

The PRESIDENT then addressed the meeting, and, after a few introductory remarks, entered upon his obituary notice of such Fellows as had been lost to the Society during the preceding year. The deaths were not so numerous as usual. Among them were five resident Fellows—Mr. William Coulson, Dr. Thomas Heberden, Dr. Basham, Mr. Robert Dunn, and Dr. Cotton; five non-resident—Dr. Wm. Carr, of Blackheath; Mr. Julius Jeffreys, of Richmond; Mr. George Cooper, of Brentford; Dr. Charles Mayo, and Dr. Frederick Davies. Among the hon. Fellows the losses were: Dr. William Stokes, of Dublin, and Professor Claude Bernard, of Paris. [The full text of the President's address will be published shortly in the Society's Proceedings.]

At the conclusion of the address, it was moved by Mr. James Arnott, and seconded by Sir James Paget, both in highly eulogistic terms, and carried with great applause, "That this meeting expresses its best thanks to the president, Dr. Charles West, for his most excellent address, and that he be requested to allow it to be printed." Votes of thanks were also moved by Mr. George Pollock, and seconded by Mr. Erichsen, to the retiring members of Council; and by Mr. Curling, seconded by Mr. Thomas Smith, and carried with acclamation, to the retiring officers, Dr. John Harley and Mr. J. W. Hulke, honorary secretaries, and Dr. Charles Murchison and Mr. Timothy Holmes, honorary librarians, for their zealous and valuable services to the Society during the periods they had respectively held their offices. The two secretaries returned thanks, and on the motion of Dr. Harley, which was seconded by Sir James Paget, a vote of thanks was also given to Mr. Wheatley, the assistant librarian.

The scrutineers having returned from examining the lists, the President announced the result of the ballot for officers and Council for 1878-9, as follows:—President: Dr. Charles West. Vice-Presidents: Dr. William Wood, Dr. Richard Quain, Mr. Cooper Forster, and Mr. John Wood. Treasurers: Dr. William Wegg and Mr. John Birkett. Secretaries: Dr. James Andrew and Mr. Timothy Holmes. Librarians: Dr. George Johnson and Mr. Savory. Other members of Council: Drs. Barnes, Begley, Handfield Jones, Octavius Sturges, E. Symes Thompson, Spitta, Messrs. Morrant Baker, H. H. Hayward, Berkeley Hill, and A. B. R. Myers.

PATHOLOGICAL SOCIETY OF LONDON.

Dilatation of Heart and Aorta from Spinal Disease.—Lymph-Scrotum.—Filariæ in Heart of Dog.—Spinal Cord in Diabetes.—Hypertrophic Lupus.—Renal Calculus, containing Indigo.

THE ordinary meeting of this Society was held on the 5th inst., Dr. Murchison, President, in the chair. The chief subjects were the nematode hæmatozoa, of which some specimens were shown by Mr. Coles from China; an interesting case of softening of the spinal cord in diabetes by Drs. Silver and P. Irvine; and the discovery of a new form of renal calculus (in great part composed of indigo), announced by Dr. Ord.

The PRESIDENT reminded the Society that the next meeting, on March 19th, would be devoted to the exhibition of specimens illustrating the pathology of the lymphatic system.

Dr. GOODHART showed a specimen of Dilatation of the Heart and Aorta from old Spinal Disease. The specimen was from a child seven years of age, who died under chloroform, administered for the purpose of having a spinal abscess opened. There was extreme angular curvature in the lower dorsal region, with corresponding folding of the aorta upon itself; the left ventricle was dilated, and half full of ante-mortem coagula. The viscera were advanced in amyloid degeneration. Dr. Fagge had recorded a case of ulcerative endocarditis of the left side of the heart in a similar case, and attributed by him to the increased strain thrown on the heart by the distortion of the aorta; and the dilated left ventricle in the present case probably owed a like cause. In reply to Dr. Powell, Dr. Goodhart said there was no atheroma in any part of the aorta.

Mr. G. C. COLES exhibited a specimen of Lymph-Scrotum, which he had received from Dr. Manson, of Amoy. He read a brief description of the affection, which consists in a varicose condition of the scrotal lymphatics, followed by inflammation of the skin, and exudation of a clear, and subsequently a milky, fluid. He also pointed out the relation between this affection and elephantiasis on the one hand, and chyluria on the other. In these cases of lymph-scrotum the filaria sanguinis hominis is frequently found.—Sir JOSEPH FAYRER said the disease was first described in 1861 by Dr. Vandyke Carter, and four years later by himself. He then called it nævoid elephantiasis, and when Lewis discovered the filaria in cases of chyluria, Sir Joseph suggested the possibility of this affection being also due to the presence of these worms, and shortly afterwards they were found in the blood, urine, and in the fluid exuded from the scrotal lymphatics of the subjects of this disease. It was very interesting that Lewis's discovery had been followed up by the discovery by Dr. Bancroft, in Australia, of the mature worm, and that the mosquito served as the intermediary host between these two forms. The fluid exuded in these cases of lymph-scrotum was often milky, with a pinkish tint, and coagulated rapidly. Its discharge was accompanied by great exhaustion. He was not sure whether this affection was identical with true elephantiasis scroti, where tumours attain an enormous size (the last he had removed weighed 110 lb., the man himself only weighing 240 lb. before the removal of the growth). In many such cases there is no dilatation of the lymphatics. In reply to the President, Sir Joseph said that he did not think the filaria had been found yet in non-nævoid elephantiasis.—The PRESIDENT pointed out that in the cases of chyluria recently before the Society, no filaria were found.—Dr. COBBOLD said there was no doubt that the filaria sanguinis hominis was the larval form of the F. Bancrofti, and the real merit of its discovery in chyluria was due to the late Dr. Wucherer, of Bahia; but Lewis was the first to show its existence in the blood. Bancroft's independent discovery of the adult worm was completed by that of Dr. Manson, who has observed all the stages in the life history of these filariæ. He found that, taken into the stomach of the mosquito (he had counted as many as 120 in one mosquito) the filaria casts its skin and assumes a sausage shape, the female mosquito depositing her eggs on the surface of the water and dying there. The filariæ are introduced into the human organism by the drinking-water.—Dr. CROCKER, alluding to the alleged mechanical obstruction (by filariæ) of the lymphatics as being the cause of their varicosity, said that he had recently examined the blood and lymph in a case of elephantiasis of the leg, but had found no filariæ. However, the man, who had never been abroad, had suffered from an attack of erysipelas of that leg, and Dr. Crocker inferred that there was obstruction to the circulation of lymph from that cause.

Mr. COLES also showed specimens of Filariæ in the Heart and Œsophagus of a Dog. He enumerated the various parasites affecting dogs in China, as described by Dr. Manson, and said that there were two forms of filariæ among them—one the F. emitis, which in the mature state occupied the right ventricle, and was a frequent cause of death, and the other the F. sanguinolenta, which lodged in various parts of the body, forming tumours in the œsophagus, or giving rise to pleurisy, paraplegia, &c.—Dr. Cobbold and Sir Joseph Fayrer added a few remarks.

Mr. BALMANNO SQUIRE exhibited drawings of (1) a rare form of Psoriasis, in which the eruption was seated mainly on the forehead, one of the eyebrows, and eyelashes; and (2) a case of Congenital Nævus complicated with Molluscum.

Dr. SILVER exhibited a recent specimen of Spinal Cord in a case of Diabetes. The morbid appearances were detailed by Dr. Pearson Irvine. He said that the examination was made thirty-six hours after death, but rigor mortis was present, and putrefaction had set in. There was great congestion of the vessels in the spinal canal, and a recent clot outside the sheath of the cord on the left side, opposite to the third, fourth, and fifth dorsal vertebræ, whilst lower down there was a quantity of gelatinous material surrounding the dura mater. There was further marked vascularity and fine capillary injection of the pia mater, softening of the cord opposite the third and fourth cervical nerves, and also in the dorsal region at a spot corresponding to the hæmorrhage in the canal. The brain was hyperæmic, especially on the left side, and the island of Reil on this side was softened. The upper lobe of the right lung was converted into a ragged and uneven cavity, the lung-tissue being broken down into a grumous reddish material. The middle lobe was consolidated. At the left apex were some patches of caseous pneumonia. On the pericardium and around the base of the heart was a mass of gelatinous tissue, as in the spinal canal. The liver weighed 49 oz., was smooth, firm, and of a dark-red colour, and the kidneys were hypertrophied. Dr. Silver said the patient was a lad nineteen years of age, who first attended at the Brompton Hospital last year, under the care of Dr. Bruce, who sent him to be admitted into Charing-cross Hospital. He was then thin and weak, and had all the symptoms of diabetes well pronounced. The temperature ranged between 97° to 95° (morning), but during the last days of life it roserapidly to 104°. There were hardly any pulmonary symptoms during life; there was slight cough, but no expectoration. Dr. Silver pointed out that the softening of the cord was in the tract along which it was believed that the vaso-motor nerves supplying the liver ran, this path being from the medulla, along the spinal cord to the vertebral artery, and thence to the middle and lower cervical sympathetic ganglia, the first dorsal ganglia, and the plexus on the cœliac axis. Another tract was said to be within the cord to the upper dorsal region. The disease of the lungs was a necrotic process, but had not the odour peculiar to gangrene of the lung, probably because air was excluded from it. In reply to Mr. James Adams, Dr. Silver said that the retinæ were not examined for hæmorrhage; and in answer to Dr. Frederick Taylor, Dr. Irvine said that the nature of the softening was not yet ascertained, as it was deemed best to keep the parts *in sitû*. Dr. Silver added that there was no apparent softening in the floor of the fourth ventricle.

Mr. SANGSTER brought forward a case of Hypertrophic Lupus. The patient, who was shown to the Society, was twenty-four years of age, and fairly healthy, and had suffered from an eruption on the buttock for fourteen years. This eruption had the character of lupus; its surface was raised, its margin festooned and surmounted by tubercles of a livid red colour, some crusted over. The growth, which extended as deep as the fascia over the gluteal muscles, was successfully excised by Mr. Hird. Mr. Sangster then briefly described the microscopical character of the growth, which he illustrated by several specimens and well-executed drawings showing the lupoid infiltration in various stages.

Dr. ORD exhibited a specimen of a Renal Calculus containing Indigo. He remarked that indigo was sometimes met with in normal urine, as well as a substance which yielded indigo blue under certain reagents; but it had never before been met with in the form of a calculus. The specimen was sent to him by Dr. Bloxam, and consisted of a black mass the size of half a walnut, lodged in the pelvis of one of the kidneys; the other kidney being sacculated and containing pus. The calculus, when heated on platinum foil, gave off a peculiar smoke, which had a sooty character; and after incineration there was only a small amount of deposit of phosphate of lime left behind. Microscopically, bluish-black masses and crystals could be seen; and a black residue was obtained after treatment with hydrochloric acid. On sublimation it yielded crystals in the form of six-sided tablets, just like indigo. After trituration with strong sulphuric acid, it gave a blue fluid, which finally had the spectroscopic characters of indigo—viz., a single broad absorption-band in the yellow and orange part of the spectrum. Dr. Ord then proceeded to inquire how it could have been formed. There was nothing peculiar in the patient's food; and although she had been lately taking creasote for some time, he did not think that would suffice to produce it. Further, indol, which bears some relation to indigo, is formed by the action of the pancreatic juice and peptones, and is present in the fæces. When indol is injected into the blood of a dog, indican appears in the urine. Now indican, richer in carbon and hydrogen than indigo, is decomposed by the action of acids into a mixture of indigo-blue and glucine; and hence it is said that in this is to be found the reason of the appearance of indigo in the urine in cholera and in cases of obstruction to the passage of fæces through the intestine. Another source was to be found in pus, the greenish-blue colour of which was due to a substance allied to indigo; and Dr. Ord suggested that in this case the pus contained in the left kidney was the source of the indican, which, being reabsorbed by the blood, was excreted by the other kidney, and precipitated as the coloured indigo-blue by its contact with the acid urine. It had then become attached to the surface of the blood-clot, and thus formed the

calculus. Whatever the explanation, it pointed to a direction in which the urine might be profitably studied.—The PRESIDENT congratulated Dr. Ord in discovering a new form of urinary calculus, which he had conclusively shown to be composed of indigo.—Dr. THUDICHUM, after confirming Dr. Ord's statement as to the nature of the calculus, said that the first urine of cholera contains a very large quantity of indican, so that the albumen in the urine is precipitated of a black colour. He urged that, because a substance was only present in small amount, it was not therefore to be regarded as of no importance; but the contrary. The indigo found in the urine was not identical with that in the indigophorous plant.

The Society then adjourned.

CLINICAL SOCIETY OF LONDON.

Removal of Papilloma of the Larynx; Coexistence of Thoracic Aneurism.—Subperiosteal Excision of Os Calcis.—Excision of Rectum.

THE ordinary meeting of this Society was held on the 22nd ult., Mr. G. Callender,[1] President, in the chair. There was a large attendance, and the cases brought forward were of great surgical interest. The chief of them was a case of papilloma of the larynx under the care of Dr. Burney Yeo and Professor Lister. The growth and the true and false vocal cords had been entirely removed by thyrotomy by Professor Lister, but without the patient losing his voice—a phenomenon which Professor Lister satisfactorily demonstrated was due to the vibration of the ary-epiglottic folds. The case thus afforded a distinct contribution to physiological knowledge. It will be seen further that the case was complicated with thoracic aneurism. An interesting discussion ensued, shared in by Messrs. Maunder, Holmes, Lennox Browne, Dr. Sémon, and others. Another valuable surgical case was that of excision of the rectum for new growths in the neighbourhood of the anus, by Mr. Holmes, who also showed the bones of the foot removed from a patient upon whom he had performed subperiosteal resection of the os calcis some years before. The latter case was intended to show that Ollier's method did not always succeed in its object.

The PRESIDENT introduced a patient wearing an apparatus for the treatment of fracture of the patella, which he had now employed for some time. It consists in a canvas shoe, to each side of which are attached cords, which run over pulleys, to be inserted into plaster applied above the knee. The apparatus is applied when the patient first comes under treatment, and (as in the case shown) he is allowed to get up with it, the cords being kept tense whether the foot is flexed or extended, as they take their purchase in front of the ankle-joint.

Dr. YEO and Professor LISTER then brought forward a case of Papilloma of the Larynx successfully removed by Laryngo-Tracheotomy; co-existence of Thoracic Aneurism. The earlier history of the case was first related by Dr. Yeo. He said that the patient, a labourer, forty-nine years of age, applied at the Brompton Hospital for Consumption on Oct. 13th, suffering from severe pain in the upper part of the left side of the chest, and orthopnœa. His voice was hoarse, and had been so for the past seven or eight years; he had no cough, but was emaciated and worn. On examination, a pulsating area, the size of a florin, was detected at the sternal end of the second left interspace; there was dulness here, and accentuation of the second sound, but no thrill, and no expansile impulse. The inspiratory murmur was harsh and prolonged, but there were no moist râles to be heard. On examining with the laryngoscope, Dr. Yeo found the upper part of the larynx to be occupied by a vascular warty growth, the size of a hazel-nut, attached by a broad pedicle to the anterior commissure of the larynx, so that when not breathing it completely filled the upper part of the larynx, and on inspiration an interval was seen near the left vocal cord. The man had served in the Marines in the Crimea, and was invalided in 1856 with rheumatic pains in the shins. Nine years ago he suffered from bronchitis, and ever since had been hoarse and short of breath. Eighteen months ago he suffered for six months from "wandering gout." On June 4th, 1877, when at work helping to lift a heavy iron rail, he experienced a severe pain and sensation as if something was giving way in his chest. The aneurism probably dated from this strain. He was admitted into King's College Hospital on Oct. 16th, and kept under observation for nearly a month, but at the end of that time, being no better, but even worse, and suffering from more pain and greater dyspnœa, Professor Lister was consulted, and it was agreed that the growth was too large and too firmly attached to admit of its successful and complete removal by the mouth.—Professor LISTER now took up the narrative of the case. He said that the tumour being apparently single and pedunculated, he first attempted to remove it by cricotomy—i.e., division of the cricoid and upper rings of the trachea. He was surprised to find how much room was given by this operation between the vocal cords. The disease, however, was found to be more extensive than was anticipated, for instead of a single tumour, there were warty growths extending over the whole vocal cords. He therefore decided to perform entire laryngotomy, by prolonging the incision upwards through the thyroid cartilage. Before doing this he availed himself of the plan devised by Dr. Foulis in his recent case of extirpation of the larynx, of adapting a bent leaden tube to the divided trachea, so as to prevent the entrance of blood or vomited matters into the air-passages. This tube has an advantage over Trendlenberg's tampon in being less inconvenient and in occupying less space. The shorter limb of the tube was accurately fitted into the trachea by being surrounded with strips of india-rubber; whilst at the end of the longer horizontal limb, chloroform could be administered. The thyroid cartilage was divided, and the growth removed, together with the true and false vocal cords; chloride of zinc being applied to the raw surface. The divided halves of the thyroid cartilage were brought together by means of a silver-wire suture, and the edges of the skin over the prominent larynx united by means of the "button-stitch" and horsehair sutures. The tube was left in for a few hours, and removed on the cessation of all bleeding. The wound over the larynx united by first intention, and the lower part, where the tube had been, by granulation. For a few days the patient had some difficulty in getting rid of mucus. The operation was performed on Nov. 23rd; on Dec. 1st the man said he had not been so comfortable for nine years. He was discharged on Dec. 21st, and on Jan. 12th the silver stitch was taken out. There was, however, said Professor Lister, another circumstance which encouraged him in bringing forward the case. He had been prepared to find that this man would cough like other people, but he did not expect that he would be able to speak above a whisper. Some observations which he had published in 1861, in his article on Anæsthetics in Holmes's System of Surgery, bore upon these facts. When he was house-surgeon under Mr. Syme, he had observed that when the stertor produced by subjects under chloroform passed away, simple traction on the tip of the tongue produced no effect, but when the tongue was drawn forward, an additional pull being made on it, the respiration at once became freer. In demonstrating this point to his class, and producing the stertor himself, he found that when the tongue was drawn forward he could not make the stertorous sound. He therefore pursued the subject experimentally, and made an opening into the pharynx of a sheep while under chloroform. He found he could not get a view of the vocal cords because of the presence of a pair of red valvular folds, which were in constant action above them. His research in this direction was abruptly put an end to by the inspector of the slaughterhouse refusing to allow of his further "barbarities"—an instance, Professor Lister remarked, now not isolated, in which ignorant prejudice with the best intentions may interfere with legitimate scientific work. The laryngoscope was introduced about that time, and Professor Lister pursued his inquiry by examining his own larynx, and found these valves in the sheep were the pulpy folds formed by the posterior part of the ary-epiglottic folds. In fact, it appeared that not only do the arytenoid cartilages move on their vertical axis, and also laterally, as shown by Czermak, but they can be brought forward to the base of the epiglottis, so that the folds of mucous membrane between come to form a valve. He found that the stertor was due to the vibrations of these folds, and that they went back when the tongue was drawn so far forward as

to produce a painful sensation, and a passage for air thus produced. He found that these pulpy folds were the obstructing parts in coughing, a fact not generally known; and hence he was prepared to find that this patient was able to cough like other people. Still he said he was not prepared to find that he was able to speak; and yet he ought to have been, for, as he said, he himself (and anyone else) could voluntarily produce the deep stertor due to the obstructions of these folds, and if so, why not other sounds? Professor Lister then himself uttered a sentence in a voice produced by the vibrations of the ary-epiglottic folds; and he stated that since his attention had been directed to the subject he had noticed that this kind of voice is occasionally resorted to in ordinary parlance under the influence of mental emotion. When the patient was introduced, the linear cicatrix over the box of the larynx having been exhibited, he showed that he could cough naturally, and also spoke some sentences in a deep gruff monotone, plainly audible to all present. — Dr. YEO added a few remarks completing the medical history of the case. He had examined the patient several times with the laryngoscope since the operation, and found the interior of the larynx apparently empty; and when he speaks the ary-epiglottic folds are brought together and are thrown into vibration. He has since been re-admitted into the Brompton Hospital, with signs of increasing aneurism, has been kept in bed, had hypodermic injections of morphia, and large doses of iodide of potassium given. There has been slight improvement. Dr. Yeo, in conclusion, remarked on the singular coincidence of an aneurismal tumour and laryngeal growths, both sufficient to produce that dyspnœa, which in pre-laryngoscopic times would have been attributed incorrectly to the aneurism. — The PRESIDENT remarked that this afforded another interesting addition to our knowledge of the functions of the organs of voice. Some years ago it was thought that a patient deprived of his tongue would be mute, but that had proved a fallacy. Then Dr. Foulis's case and others, in which the larynx had been excised, had shown how vocalisation could be effected by simple artificial substitutes for the vocal cords; whilst in the present case it had been shown that speaking was still possible even after all the parts commonly held to be concerned in its production were removed. The operation had been most satisfactory, and the manner in which its difficulties had been overcome was an interesting feature in the case. — Mr. T. SMITH asked how long the tracheal tube was worn. — Professor LISTER said the operation was done at 1.30 P.M., and the tube removed at 7.30 P.M. — Mr. MAUNDER, remarking that the case was of interest from a physiological, clinical, and operative point of view, said that doubtless it was shown thus early after the operation lest the man should die of his aneurism; but he trusted Dr. Yeo would cure this, and would give the Society an opportunity of knowing whether or not the growth recurred. This was important in connexion with a case shown elsewhere by Dr. Foulis, where the papilloma had returned twice before excision of the larynx was resorted to. It was very desirable to know ultimate results in order to decide upon the choice of operation. — Mr. HOLMES asked for more information as to the exact structures removed. Mr. Lister said that he had detached the true and false vocal cords; had they been kept and examined? As a rule, laryngeal growths, for the removal of which thyrotomy is performed, can be taken away without removing also the vocal cords. It was of course an important physiological fact, if a true one, that these ary-epiglottic folds can vibrate so as to produce vocal sounds; and he would like to ask whether any such vibration of the ary-epiglottic folds does occur under ordinary circumstances when the tongue is in the mouth. Should the patient eventually succumb to his aneurism, Mr. Holmes trusted the larynx would be carefully examined. — Mr. LENNOX BROWNE said that, having had an opportunity of examining the patient, he could bear testimony to the fact that every portion of the vocal cords, true and false, had been removed. It appeared to him that in the act of phonation in this case there was general lateral compression of the larynx; there was certainly also a disposition for the epiglottis to hang lower than before the operation, so as to come in greater proximity to the arytenoid cartilages. The case was exceedingly interesting and important, because the operation had been performed not only on account of impairment of voice, but for the relief of a vital symptom. The dangers of the operation were not so many nor so great as are frequently met with in attempts to remove growths *per vias naturales*—which he had seen followed by spasm of the larynx, in two cases requiring tracheotomy; removal of normal tissue, leading to ulceration; injury to laryngeal cartilages, especially the arytenoid, resulting in paralysis, caries, and death of the patient. There was, further, a much greater tendency to recurrence than was generally supposed, and recovery of voice was by no means complete. Mr. Browne considered the removal of the tracheal tube so very shortly after the operation had contributed greatly to the patient's rapid recovery, while the very complete removal of the contents of the larynx would lead one to predict with almost certainty that there would be no recurrence; and were these two points rigidly adhered to, there would be no necessity for the more dangerous operation of extirpation of the larynx.— Dr. FELIX SEMON did not think that the large size or hardness of the growth would have precluded its removal by an endo-laryngeal operation. A large tumour can be removed more readily than a small one, and, as to consistency, Professor Stoerck, of Vienna, had often removed ecchondroses of the laryngeal cartilages by means of his guillotine. At any rate, it would have been worth trying, for there is greater chance of restoration of voice and less risk of recurrence in this method than by thyrotomy. Professor Paul Brüns, of Tübingen, in a recently published work on "Laryngotomy for the removal of Intra-laryngeal Growths," decides in favour of endo-laryngeal operations after a careful analysis of all published cases up to the end of 1877; but of 39 cases of thyrotomy, in only 18 was the natural, or nearly natural, voice restored, whilst in 21 there was complete loss or important alteration of the voice. On the other hand, endo-laryngeal removal had been performed upwards of 1000 times, with complete restoration or great amelioration of the voice. Nor is any new element introduced by this method, and recurrence is less likely to occur than after the prolonged operation of thyrotomy, where the attendant hæmorrhage and narrow field of operation may lead to minute portions of growth being overlooked. Professor Brüns states that recurrence took place in 21 out of 39 cases of thyrotomy, as against 30 out of 90 cases in which the growth was removed *per vias naturales*. Dr. Sémon did not think the instances cited by Professor Lister were sufficient to draw general conclusions as to the ary-epiglottic folds acting vicariously for the vocal cords. Although these folds and the false vocal cords sometimes took the place of the epiglottis in closing the larynx, after extensive destruction of the epiglottis, yet in the function in question Professor Lister's case must be regarded as exceptional.— Mr. ERNEST HART, alluding to the aneurism and the prognosis of the case on that count, said he had recently seen at St. Stephens Museum in Dublin a preparation of an aortic aneurism which had been completely cured on Mr. Tufnell's plan of restricted diet and absolute rest; and the preparation had been obtained, not because the patient had died from the aneurism, but because he had committed suicide.— Dr. C. T. WILLIAMS asked for information as to the precise situation of the aneurism in the case before the Society.— Mr. HOLMES hoped they would not discuss the subject of the aneurism, which was not the point before the meeting.— Dr. GLOVER, on the other hand, held that it was a most important part of the case.—Professor LISTER, in reply, said that the justifiability of the operation was allowed by the fact that the objections raised to it had been directly opposed to one another; one being that enough had not been removed to ensure freedom from recurrence, and the other that too much had been removed.—Mr. HOLMES said he only meant to urge that there was not sufficient evidence forthcoming that the vocal cords had been removed.—Professor LISTER, continuing, begged Mr. Holmes to take his word for that fact, which could be corroborated by Dr. Yeo, Mr. Wood, and others who were present at the operation. The vocal cords were taken away from their anterior to their posterior insertions, including a portion of the arytenoid cartilages, and also the false vocal cords. [Mr. P. Thornton here added his testimony to the fact that laryngoscopic examination showed that no trace of these structures remained.] That no one had seen the vibration of the ary-epiglottic folds was due to the fact that when one examines the larynx one does it with the object of observing the vocal cords; but that these folds do vibrate was a fact which anyone could prove himself to his own satisfaction. It was another matter as to whether they were always able to act vicariously as a voice-organ. Certainly this vibration always occurs in the deep stertor produced during chloroform anæsthesia.—Dr. YEO, in reply, said that the epiglottis in this

case had always been deformed, being laterally depressed. The patient, since the operation, had spoken better than he did that night, and had pronounced all the vowel sounds. Since he had been undergoing treatment for the aneurism, he had certainly improved.

Mr. HOLMES then related the sequel to a case of Subperiosteal Excision of the Os Calcis, which he had brought before the Society a few years ago (see Clin. Soc. Trans., vol. viii., p. 77). The operation, which was performed on a boy of fourteen, strictly upon M. Ollier's method, was followed by much local inflammation, but without any production of new bone, and with complete anchylosis of the ankle-joint. The patient died recently from phthisis, and Mr. Holmes was thus enabled to show the bones of the foot. There was not only anchylosis of the ankle-joint, but also of the tarsal and some of the tarso-metatarsal articulations. Two small tubercles at the insertion of the tendo Achillis represented the reproduced bone. The operation then had not answered its purpose, and Mr. Holmes brought the preparation to show that regeneration of bone from detached periosteum by no means invariably occurred. — Mr. MACCORMAC asked how long suppuration lasted, for upon this depends the amount of reproduction of bone taking place from the periosteum.—Mr. HOLMES replied that suppuration was prolonged.—Mr. FURNEAUX JORDAN said that he lately performed Bell's modification of Syme's operation—viz., leaving the periosteum of the posterior half of the os calcis, and applying it to the sawn tibia. The result was the formation of a convex plate of new bone, which rounded off the stump, and served as a new heel. The question was, would this new bone be liable to take on caries—i. e., would it partake of the character of the os calcis which had been removed?—Mr. MAUNDER said he thought the reproduction of bone in subperiosteal excisions depended upon the amount of force required for its removal. Rough usage with the raspatory, often unavoidable, gave rise to acute inflammation and to destruction of the membrane, whereas in some instances the periosteum peeled off so readily that it would be difficult to take it away with the condemned bone. He deemed it desirable in some cases to save even the shell of the os calcis, lest the natural elasticity of the foot should be damaged by a section of plantar ligaments, and so the astragalus, being unduly compressed, might also become carious.

Mr. HOLMES then related a case of Excision of the lower part of the Rectum. He remarked that the operation was not much practised in this country, but had been more in vogue in America and Germany. His patient was a married woman, between forty-five and fifty years of age, who had had many children and miscarriages, but in whose history there was nothing pointing to syphilis. For the last nine years she had suffered from irregularity in defecation, alternate diarrhœa and constipation; but latterly this had increased to such an extent that she ceased to have a natural motion, and she applied for relief at St. George's Hospital. On examination Mr. Holmes found a number of firm tumours surrounding the anus, and extending within the bowel so as almost to occlude it. The upper end of the bowel was healthy. Antisyphilitic remedies having no effect, and the characters of the growth resembling epithelioma, Mr. Holmes proceeded (in November) to remove the lower end of the bowel. To do this it was necessary to make an opening into the vagina, and to detach the rectum from its surroundings by a free incision extending to the point of the coccyx. There was considerable hæmorrhage, but it was readily commanded. The rectum being drawn out of the body and laid open, the lower two inches or more were excised, and the divided margin was stitched to the wound. The bowels were kept locked for about a fortnight. The patient regained health, and had now completely recovered. Although not possessing any control over the passage of fæces, there is no inconvenience felt, for the bowels act regularly once a day. The nature of the tumours which studded the lower end of the bowel was apparently adenomatous. Mr. Holmes remarked that no doubt a few years ago such a case as this would have been treated by colotomy; but there were two obvious advantages of the present operation over colotomy—viz., removal of the diseased structures, and formation of the artificial anus in a natural position, and if too much be not removed, there was a certain amount of controlling power left. Mr. H. Cripps, in whose Jacksonian Prize Essay many facts bearing on this question are brought forward, had the opportunity of assisting Sir James Paget in such an operation about a year ago. The patient can now attend to business and retain fæces, a result which those who have read Mr. Cripps' essay will know is not an exceptional one. The most important point was as to the amount of bowel which could be removed without any serious risk to the peritoneal cavity. The depth of the peritoneum from the surface varied; but it was less in the female than the male. It was not more than three inches, and in operating the bowel should be pulled gently down after being dissected from the surrounding tissues. Mr. Cripps had drawn attention to the fact that in the male the peritoneum can be fixed by fully distending the bladder. The main question was, however, with respect to the relative claims of colotomy and excision of the rectum. Colotomy is an easier and simpler operation; but, notwithstanding that, Mr. Cripps had found that the duration of life after excision of the rectum was longer than after colotomy (where it was about six months); and this in spite of the fact that many cases are included in that essay where the operation of excision was not limited to the bowel, but involved even the prostate and base of the bladder. In fact, in cases of epitheliomatous disease of the rectum, not extending far into the bowel, there could be no question that excision is safer than colotomy, leaves the patient in a better position, and has a greater tendency to prolong life, so that Mr. Holmes thought the operation would be likely to come largely into vogue.—Mr. HULKE had no doubt that in the kind of case such as that read by Mr. Holmes, where the disease is not an infiltrating one, the operation was suitable. But he doubted if it was an easier operation than colotomy. Some years ago he assisted the late Mr. C. Moore in the removal of a cancerous rectum. The case was an unsuitable one; the cancer had infiltrated the walls of the gut; there was considerable hæmorrhage, and difficulty in securing the divided bowel to the skin was experienced, and death ensued from pelvic cellulitis. He thought that the longevity after colotomy in cases of epithelioma, when the operation was done early, before complete obstruction had occurred, was longer than had been stated; he should say the average was about eighteen months.—Mr. T. SMITH said the two operations were distinct; each stands on its own merits, for if the disease be so limited as to allow of its entire removal, it cannot be so advanced as to require colotomy.—Mr. MORRIS agreed with Mr. Smith that the operations were not comparable one with another. The removal of the lower end of the rectum was not difficult, the chief inconvenience being from hæmorrhage; and he asked at what period the most severe bleeding took place—whether it was after making the transverse section of the rectum, or whether it occurred from the vesse's in the ischio-rectal fossa. Dr. Roberts of Philadelphia, in a paper on this subject, says that if measured when the rectum is not stretched, the distance of the peritoneum from the margin of the anus is from an inch and a quarter to two inches, but that when traction is made on the anus, the distance is increased to two inches and a half to four inches and a quarter. There is thus considerable variation, according to whether the rectum be stretched or not, pointing to the fact that when the operation is performed traction should be made on the anus before dividing the attached bowel. He asked Mr. Holmes if any union took place between the bowel and the edges of the wound, and also if cicatrisation was followed by stricture of the anus. He also inquired as to the exact method of operation, whether by oval incision encircling the anus, or one straight incision dissecting off lateral flaps with the sphincter, or by a posterior flap after transverse incision in front of the anus. If the skin were much involved, none of these flap methods could be performed.—Mr. FURNEAUX JORDAN a few years ago performed excision of the rectum for epithelioma, in a middle-aged woman. He removed about two inches of the gut by means of a circular incision, and cleared out the ischio-rectal fossa. The hæmorrhage was controlled by means of a sponge and pressure. Afterwards the rectum acted as though a sphincter had been left. No sutures were employed. The patient made an excellent recovery, and survived eighteen or twenty-one months. Two years ago, in another case, he removed the whole vulva and two-thirds of the urethra for epithelioma, and the patient is now quite well.—Mr. HOLMES said Mr. Cripps was his authority for the estimated duration of life after colotomy. The method he had employed was surrounding the anus by an incision which was prolonged backwards to the coccyx; then clearing out the ischio-rectal fossa freely. The hæmorrhage came from this, but it was readily controlled by sponges and pressure; none took place

in dividing the bowel. The bowel was not constricted, but was enlarged at the artificial anus. Possibly colotomy and excision of the rectum should not be compared, but we had always been taught to regard the removal of the rectum as an impossible thing. Of course, it should not be attempted when the disease encroaches on the ischio-rectal fossa.

The Society then adjourned.

MEDICAL SOCIETY OF LONDON.

Opium Poisoning treated by Atropine.—Chorea, Paralysis Agitans, and Epilepsy.

AT the ordinary meeting of this Society, on February 25th, Dr. G. Buchanan, President, in the chair, an interesting case of opium-poisoning successfully treated by atropine was read by Dr. MILNER FOTHERGILL. The patient, a woman forty-seven years of age, took at 11 A.M. on February 14th a large dose of laudanum, equivalent to twelve grains of opium. An emetic was given, and being taken to the West London Hospital, the patient was treated by the ordinary methods. At 2 P.M. Dr. Fothergill, finding the respiration failing and the patient's condition to be very critical, determined to administer a large dose of atropine at once. A solution containing one grain of sulphate of atropia was injected beneath the skin. For ten minutes the respiration still fell, but, the patient being kept warm, the respiration slowly and gradually returned. The pupils, from a state of extreme contraction, became widely dilated. Faradaism was also employed. At 4.10 the pulse was 130 and soft; respiration 13 per minute and steady; temperature 97·5°; pupils widely dilated. An enema of strong coffee and sal volatile was given. At 8.30, pulse 128; respiration 22; temperature 100·4°; pupils less dilated. The patient was delirious through the night, but continued to improve, and by forty-eight hours after taking the opium, and forty-five after the injection of the atropine, both poisons were eliminated. As in opium-poisoning death occurs chiefly through failure of the respiration (Wood), and as atropia is the only known drug which exercises a decidedly stimulating effect upon the respiratory centres, the rationale of the treatment is evident, and Dr. Fothergill thought that the good result in this case was mainly attributable to the large dose of atropine employed.

A paper was read by Dr. DAY (of Stafford) on the Clinical Phenomena of Chorea, Paralysis Agitans, and Epilepsy. Regarding the first of these affections he quoted the accurate and graphic account of the choreic movements given by the late Dr. Babington in the thirteenth volume of "Guy's Hospital Reports." At the Stafford County Infirmary, the average age of the children attacked was between six and eleven years, more than three-fourths of the cases occurring in girls; and Dr. Day could find no evidence for the belief that the completion of the second set of teeth had anything to do with the initiation of the symptoms. His cases were mostly bilateral, one side having a predominance in the degree of movement; and in all the unilateral cases there was an antecedent history of scarlet fever, rheumatism, or both. Reference was made to the prevailing views entertained as to the etiology of chorea, and Jaccoud's statement that co-ordination of muscular movement has no single centre was dwelt on. The writer suggested that differences of opinion as to the cause of chorea might be attributed to the circumstance that different and sometimes opposite conditions are at times capable of leading to the development of the same phenomena, and hence the varieties of specific remedies vaunted in its treatment. Believing that the chorea of children depended on defects in nutrition, Dr. Day here made a lengthy digression, with a view to show that "nerve-force" is not confined to organisms possessed of the structural elements of a nervous system, but is inherent in and clearly bound up with the nutrition of every living organism. Although, as a rule, depending on defective nutrition, he fully admitted that some cases of chorea arose from fright; and contended that everything pointed to the disease being a purely functional one, any structural change that might be present being superadded to the disease itself and not essential to it. Dr. Day then referred to chorea of puberty and pregnancy, and expressed a doubt whether so-called "senile chorea" existed. In discussing paralysis agitans he pointed out that it was known to and described by Galen and Van Swieten, although it was not fully recognised until 1817, when Parkinson's essay appeared, or discussed until 1841, when MM. Charcot and Vulpian published their researches on it. Although usually occurring after fifty years of age, Duchenne has described a case at sixteen years, and Dr. Day has himself a patient in which the affection dates from early childhood, the patient being now in his thirty-first year. The differential diagnosis of the affection was then described, especially as regards disseminated sclerosis, and the empirical nature of the treatment in vogue pointed out. The paper dealt, lastly, with epilepsy; the main argument being that varied nervous phenomena might be produced by similar causes, just as different causes give rise to the same phenomenon.

Reviews and Notices of Books.

Transactions of the Pathological Society of London. Vol. XXVIII. London. 1877.

THERE can be no question that in many respects this is the most valuable volume yet issued by the Pathological Society. Even in the one point which strikes the eye of the casual observer—the number and beauty of the illustrative plates—this volume is far in advance of those which preceded it. Nor should it be forgotten that in this matter the Society has been largely indebted to the liberality of two of its members—a fact which was duly and gratefully recognised in the report of the Council read at the last annual meeting of the Society. The literary contents are equally of solid and definite value, and for the first time in these Transactions do we find the plan of collating and grouping special subjects thoroughly carried out. This is best seen in the subject of visceral syphilis, which forms the *pièce de resistance* of the whole work. To the pathological inquirer searching for the latest established facts upon this subject, no better guide could be afforded than is here presented. It deals, however, mostly with the changes in the vascular system and in the lungs in syphilis, there being less detailed reference to syphilitic new growths than perhaps might have been welcomed. The subject, however, is by no means exhausted, although the outcome of the extended research contained in this volume points more and more to the truth of the dictum that the specific character of the lesions of syphilis lies less in their structure than in their mode of growth and evolution. Hence the difficulty and the danger of laying too much stress upon a particular form of growth as pointing to its etiology, which is aptly illustrated in the communications upon pulmonary lesions in syphilis to be found in this volume. The fact is that here, as with tubercle, we have to deal with processes allied to, and in their minuter details indistinguishable from, simple inflammatory changes, but which in their evolution and early decay have features of specificity stamped upon them.

This forms, however, but a small part of the book. Next in prominence, and characterised by the admirable fidelity and fine execution of the plates so lavishly distributed in it, is the contribution of Sir W. Gull and Dr. Sutton upon Fibroid Changes in the Spinal Cord. The article, written in furtherance of their hypothesis of "arterio-capillary fibrosis," travels over wide ground, affording as it does a complete history of the interstitial changes of the spinal cord, beginning with the simple acute inflammatory states, on to advanced and widespread conditions of sclerosis; the object of the authors being to show how great a part is played by the vascular system in one and all of these changes. Dr. Johnson's reiteration of his own views with regard to the nature and the mode of production of Arterial Changes in Chronic Bright's Disease naturally follows the above paper. Time may show how views so discordant and statements as to facts so discrepant can yet be reconciled!

The Histology of the Spinal Cord in Hydrophobia is thoroughly worked out by Dr. Gowers, and ably illustrated by him; and among other new features of the volume are Dr. Klein's abstract of his report on the Early Renal Changes in Scarlatina, and Mr. Godlee's on Vaccinia. Hitherto records of isolated cases have formed the subject-matter of these Transactions, which gain in value and usefulness by the addition of so much extended observation of groups of facts.

Auscultation and Percussion; together with the other methods of Physical Examination of the Chest. By SAMUEL GEE, M.D., Assistant-physician to St. Bartholomew's Hospital, and Physician to the Hospital for Sick Children. Second Edit. London: Smith, Elder & Co. 1877.

WE are glad to observe that a second edition of this very useful little work has been called for. The author appears to have bestowed great care on its preparation, for, in spite of the addition of much new matter, the bulk of the volume has not increased. Many instances might be quoted showing how thoroughly he has kept himself informed of the latest developments of the subject, and in some instances he has himself changed his opinions. Thus, speaking of the physical conditions of the respiratory bruit, he says:—

"I may as well at once declare that, for my own part, I hold to Beau's doctrine in this matter. The spirit of my book, not dialectic, but dogmatic, forbids that I should discuss this problem here. Enough for me to say that my opinion has not been formed rashly, and that I do not ask the reader rashly to adopt it. Beau's theory is the following:—The lungs in the chest are distended; the tubes are well open, apt for conduction and reflection. The passage of the breath, through the narrow glottis into wider spaces above and below, produces sonorous fluid veins, inspiratory and expiratory. The nostrils, the mouth, and the fauces partake in the production of the respiratory sound; however, for present purposes, it may be deemed to be wholly glottidean. Now this glottidean breathing murmur is conducted down the air-tubes just as the loud or whispered voice is carried" (p. 130); and "vesicular breathing loses the reverberating hollow quality in consequence of the badly conducting material of the spongy textures of the lung."

Whilst thus abandoning the generally accepted view that the vesicular murmur is due to the movement of the air in the smaller air-passages and air-vesicles, Dr. Gee does not, of course, reject the vesicular character of the crepitant râle.

The plan of the work is worthy of imitation. Not content with an extended explanation of the results of physical examination of the chest in normal and abnormal conditions, the author, in the second part, takes his readers over the same ground again, but by a different route, discussing in a series of brief chapters the physical phenomena of these diseases. In that way the student gains the benefit of a repetition without being wearied in its study. We cannot close this notice without referring to the style and manner of the book. Clear, concise, and pithy, the phraseology is for the most part well chosen. Some of the sentences are quite aphoristic; and the dogmatic character of the book adds to its value for teaching purposes. The table of contents, the division and subdivision of subjects, and the copious index, give a completeness to the book which is seldom met with.

OUR LIBRARY TABLE.

Zeitschrift für Biologie. Band xiii., Heft 4. München: Oldenbourg. 1877.—This part contains: (1) The Importance of Investigations on Drinking-water for Hygiene, by Dr. C. Flügge. This is a very long article. The practicable methods of analysis are believed, he says, to show with some approach to certainty the amount of solids, the amount of organic matter, of nitric acid, of ammonia, of carbonic acid, of the earths and alkalies, of sulphuric and phosphoric acids and of chlorine in any specimen of water; and in addition much information is gained from its microscopic investigation. The object of his article is to ascertain what objections can be raised to the methods employed, and whether and how far the results, even if free from error, favour the various hygienic theories. In a table he gives the exact amount of chlorine contained in all the wells and springs in Leipzig. (2) Max Rübner gives a short notice of muscular tissue impregnated with common salt. (3) C. Voit describes the behaviour or relations of the shells of birds' eggs during incubation. He shows that none of the lime salts of the growing chick are derived from this source. (4) Salkowski discusses the changes undergone in the system by uric acid which has been absorbed from the intestinal canal of the dog. Lastly, C. Voit gives a commentary on Salkowski's paper. This part terminates the thirteenth volume of this valuable journal.

Aids to Forensic Medicine. By DOUGLAS HEMMING, M.D. London: Baillière, Tindall, and Co. 1878.—This is an abstract of well-known text-books, and is intended as an aid for students preparing for examination. Although we think that every student should make his own abstract, we have no hesitation in recommending Dr. Hemming's book to those who are too idle to do so. This book cannot replace the larger works, but will serve to jog the memory of those who have made some serious attempt to master the subject of forensic medicine by a little real study of a standard treatise.

The Freedom of Science in the Modern State. By RUDOLF VIRCHOW, M.D., Professor in the University, and Member of the Academy of Sciences of Berlin, Member of the Prussian House of Deputies. Translated from the German and revised by the Author. London: John Murray. 1878.—We gladly welcome this excellent translation of Professor Virchow's thoughtful address, some of the more salient points of which we notice in another column. Those who have already read the address will profit by perusing it again by the light of Professor Virchow's and the translator's prefaces, while those who have not yet seen it, enjoy now an excellent opportunity of correcting the omission.

Synopsis of the Diseases of the Larynx, Lungs, and Heart. By F. DE HAVILLAND HALL, M.D. London: J. and A. Churchill. 1878.—The author has given us in this work the symptoms of heart and lung disease, arranged in a tabular form, so that the search for particular symptoms and the comparison of the symptoms of different morbid conditions are very much simplified. The tables are reproductions and extensions of those arranged by the late Dr. Edwards, of St. Bartholomew's Hospital, for the information of students commencing the study of physical diagnosis, and they seem to us well calculated to fulfil the object which has been the cause of their appearance.

Compendium der Electro-therapie. Von Dr. Med. R. H. PIERSON. Second Edition. Leipsig: A. Abel. 1878.—This convenient little work of reference has been considerably improved, and embodies all the chief facts in electro-therapy up to the present time. Although written in Germany, we are glad to find that the author has not neglected to avail himself of the experiences of the many British physicians and surgeons who have been working of late years at this branch of medicine. To those who can read German with ease we can recommend Dr. Pierson's work with confidence.

MESSRS. SUTTON'S *Farmer's Year Book for 1878* contains a great deal of valuable information in a small compass. The concise epitome of facts relating to seeds and their cultivation, embodied in the little pamphlet, raises it above the level of a mere trade catalogue. To members of the profession who devote their leisure hours to amateur farming or gardening, this little book would be found useful and instructive.

THE LANCET.

LONDON: SATURDAY, MARCH 9, 1878.

THE Duke of RICHMOND has given notice of his intention to bring in a Bill to amend the Medical Act. At the time of writing, we cannot pretend to speak confidently of the features of the Bill; but we may safely assume what the principal provisions of the measure will be, and we may advantageously suggest others, the inclusion of which in any Bill will add to the completeness of medical legislation, and the omission of which will certainly render any measure inefficient. There are two satisfactory things about the position of the question at present. The first is that it is taken in hand by a very strong Government. The Medical Act is far too defective a piece of legislation to be amended by bits and scraps. It is very like the Irishman's gun, which wanted a new lock, and a new stock, and a new barrel. Any private member undertaking such a laudable piece of work is almost sure to be defeated. The apathy of the House towards medical legislation is such that the only chance of its attracting the attention which its public importance demands is in the Government taking it up. The second circumstance for congratulation, and in respect of which the present position of the question compares favourably with its position seven years ago, is that the intervening period has shown both the need of change and the impossibility of the examining bodies spontaneously making the changes needed. There remains no other chance of the medical examining system of the country being adapted to the wants of the age than in the energetic action of a strong and earnest Government.

The most urgent requirement is that in every division of the kingdom the process by which a medical student is examined, not for a degree, but for a licence to practise, should be rendered efficient and complete. The present absurd system of half-diplomas and single qualifications must be abolished. Secondly, the process, in respect of cost, should be moderate and uniform. It is obvious that, if the process of examination is more severe in one part of the country than in another, students will be tempted to repair to the easier examination. It is equally clear that, if the diploma of one board costs twice as much as that of another of the same legal value, there will remain an inequality that is sure to operate unfairly and injuriously. An examination that is essentially a State examination ought to cost the student very little, and it ought to cost exactly the same sum and be of the same severity in London, Edinburgh, and Dublin. The examining body should have no pecuniary interest in passing the student. These principles are unquestionable, and ought to be respected in the Bill of the Government. The great difficulty is to reduce the licensing bodies from nineteen to three without reducing their income. It would be better for the Government to compensate the bodies by a grant than permanently to tax medical students heavily for payment of an examination artificially dear and instituted purely in the interest of the State. The case of the English College of Surgeons, as the custodian of the Hunterian Museum, is evidently very special in its claims. Under the Conjoint Scheme in England, in consequence of the Hunterian Museum expenses of the College, the cost of the joint diploma will be not less than thirty guineas. This will be about six times the cost of a good medical degree in the Queen's College in Ireland, and twice the cost of a double qualification in Scotland. It cannot be right to give the sanction of law to an arrangement like this—the more so as the Bill will probably make it imperative on every person intending to practise to pass the examination it creates, before taking any medical degree or diploma. In fact, the Bill will abolish the value of all other degrees and diplomas as legal qualifications. They will be merely honorary distinctions. Either the Government should devolve on the Medical Council or the Branch Councils the duty of electing a licensing board for each division of the kingdom, as was suggested in THE LANCET Bill (the principal points of which we reproduce in another column), the cost of which would be much smaller than that of a board made up, as it were, of so many unnecessary examining boards; or, if the whole of the nineteen bodies must be made to co-operate, as they have shown no disposition to do, and as they never will do well, then it seems equally indispensable that the Government should insist on the fees being very moderate and quite uniform. In either case, the examining bodies, whose function would be so far superseded, should be indemnified for any loss of income involved in the change.

We may confidently expect that other provisions will be found in the Bill. After the discussions in the French Chamber of Deputies of last year, and in the English Medical Council, on the international recognition of degrees, it is certain that any amending Bill will provide the registration of the best foreign and colonial degrees. Further, the penal clauses of the Act need amendment. They do not suffice to prevent a grave amount of deception of the people by ignorant pretenders to the healing art, and it is but just, while making enactments that will add to the straitness of the portals of the profession, to add to the severity of the punishment of those who falsely pretend to have passed them.

Finally, there is one change without which no amendment of the Medical Act will be satisfactory to the profession—that is, a change in the composition of the Medical Council. At present it consists of the representatives of the nineteen bodies, whose number and whose rivalry necessitate fresh legislation, and of six members nominated by the Crown. It is found that these representatives view great public questions from their special points of view. The Council urgently needs to be reduced in numbers, and to be elected (partly at least) by the members of the profession at large. The present Government has already had the courage to nominate as a Crown representative a general practitioner. It will be thanked by the profession if it will make the Council more representative of the profession, and less of its mere cliques and corporations, than it is at present.

IT is a healthy sign that the interest awakened in this country by the address on the Freedom of Science in the Modern State, which Professor VIRCHOW delivered at

the Conference of the German Association of Naturalists and Physicians in September last, continues steadily to increase. Although made known to those who do not read German by the complete translation that appeared in *Nature* in November and December last, by a notice in *The Times* of November 30th, entitled "Darwinism in Germany," and by the numerous and lengthy quotations in the trenchant but timely article "On the Use and Abuse of Scientific Lectures," in the current issue of the *Quarterly Review*, the demand for it is unabated, and a fresh translation, with a preface by Professor VIRCHOW, has just been published in a separate form. In this preface Professor VIRCHOW explains that the object of his address was "to utter an energetic protest against the attempts that are made to proclaim the problems of research as actual facts, the opinions of scientists as established science, and thereby to set in a false light, before the eyes of the less informed masses, not merely the methods of science, but also its whole position in regard to the intellectual life of men and nations." There can be but one opinion of the orator's success. The address has been hailed everywhere by thoughtful men as a salutary counterblast to the wild utterances and vain imaginings of some expositors of modern science, public opinion has been sobered, and scientific men feel themselves once more set free from "the tyranny of dogmatism."

Despite the seeming paradox, Professor VIRCHOW demands that knowledge shall be the only basis of science, and verification of facts, as distinguished from mere conjecture, the touchstone of scientific truth. To mark with greater precision than heretofore the line of separation between the speculative province of science and the domain she has actually won and fully settled is the serious and pressing duty of every scientific worker and teacher; and unless this be faithfully performed there is imminent danger, not only "of subverting the favourable feeling of the nation" towards the doctrines of science, but also of imperilling the future of science itself.

For many years two subjects have engaged the attention of naturalists and philosophers—namely, the theory of the evolution of organic beings, and the doctrine of spontaneous generation, and the way in which Professor VIRCHOW discusses these subjects may be taken as an illustration of his method. Dr. HAECKEL, in his address "On the Theory of Evolution in its Relation to Science in General," delivered four days before Professor VIRCHOW'S, boldly asserted that geology had demolished the Biblical account of the earth's creation, and that the principles of inheritance and adaptation explain the development of the manifold existing organisms from a single organic cell; and maintained that the evolution theory should at once be laid down as the basis of instruction, and the protoplastic soul (*die Plastidul-seele*) assumed as the foundation of all ideas concerning spiritual being. Professor VIRCHOW, on the other hand, condemns, as alike unjustifiable and opposed to the spirit of true science, the proposal to introduce hypotheses such as these into an educational course until the origin of the plastidulic soul from atoms of carbon, hydrogen, oxygen, and nitrogen has been demonstrated, and the doctrine of evolution of organic beings proved by a series of elaborate investigations. Until this be accomplished true science would say, "Do not teach it." However attractive, however plausible, however probable, the opinion that man stands in some connexion with the rest of the animal kingdom, Professor VIRCHOW declares that every positive advance which we have made in the province of prehistoric anthropology has actually removed us further and further from the proof of such a connexion. "We cannot," he says, "teach, we cannot pronounce it to be a conquest of science, that man descends from the ape, or from any other animal. We can only indicate it as an hypothesis, however probable it may seem, and however obvious a solution it may appear."

The other topic which Professor VIRCHOW discusses with characteristic humility and candour is Spontaneous Generation; and although he is unable to accept the hypothesis as proved, he expresses his dissent in language judicial, calm, and dignified, and strikingly dissimilar to the bitter denunciation and vulgar vituperation which some of the opponents of the doctrine in this country affect. "The doctrine of spontaneous generation has," he observes, "now again been taken up in connexion with Darwinism; and I cannot deny that there is a sort of strong temptation to adopt the ultimate conclusion of the evolution theory, and, after setting forth the whole series of living forms, from the lowest *protista* to the highest human organism, to proceed to link on this long series to the inorganic world." But he maintains, on the other hand, that all really scientific knowledge respecting the beginning of life has followed a course exactly contrary. Ages before HARVEY announced his famous dictum, "*Omne vivum ex ovo*," philosophers and scientists speculated upon the origin of life, but in vain; and the attempts made since that time have not been more successful. The alternative has been, is, and perhaps always will be, creation or spontaneous generation. "If I do not choose to accept a theory of creation; if I refuse to believe that there was a special Creator who took the clod of earth and breathed into it the breath of life; if I prefer to make for myself a verse after my own fashion (in place of the verse in Genesis),—then I must," says one of the best minds of this age, "make it in the sense of *generatio æquivoca*. *Tertium non datur*." But as yet we have no absolute proof of a *generatio æquivoca*. The proofs of it are still wanting. But "if it were capable of proof, it would indeed be beautiful!"

THE *Contemporary Review* for March contains an article on "The Abuse of Charity in London: the case of the Five Royal Hospitals," by W. GILBERT, which will probably attract the attention of the medical profession, and is not unlikely to exercise considerable influence on the public mind. The article in question, with the exception of an allusion to the connexion existing between our metropolitan hospitals and medical schools, is mainly a reiteration of the views published in 1873 by Mr. W. GILBERT in his work entitled "Contrasts," in which he draws attention, among other matters, to the out-patient department of the general and special hospitals of London, showing that no less than one person in every three of the whole population is a recipient of medical charity. It is absolutely incredible that this large proportion of the inhabitants of London are really in the destitute condition constituting a claim to gratuitous medical assistance, and to whatever extent such help is

given where that claim does not exist, a pauperising and baneful influence is being exercised. The inference to be drawn from an examination into the working, not only of the out-patient department, but of the metropolitan hospitals generally, is that the finding of money for charitable purposes is an easier task than the proper distributing of the funds collected, the fundamental vice in the management of our medical charities consisting in the irresponsibility of those who control them—the public, as a rule, seeming to think that they have discharged their duty to the poor when they have simply thrown their gifts into the hands of men frequently unacquainted with even the principles of hospital management, but who think fit to constitute themselves presidents, vice-presidents, and governors of these institutions. The outcome of this system is worked out by Mr. GILBERT: for instance, he gives figures which have not, we believe, been controverted, to prove that "if the expenditure of St. Thomas's were reduced to a level of the Westminster Hospital, the surplus would be more than sufficient to maintain the whole of the new workhouse infirmaries and dispensaries without the aid of ratepayers." This is only one among several examples of the kind brought forward in proof of the correctness of the view above referred to.

About a year ago Mr. GILBERT published another book, entitled "The City," which might be considered a second edition of his former work, his facts and figures having been carefully revised. The administration of the funds of several of our large hospitals was again severely criticised, and the remarkable difference in expenditure upon patients in various hospitals elucidated, so as to throw into prominent relief the idea that our metropolitan medical charities urgently required a central board of administration, to exercise a general supervision over the expenditure of the sums of money at their disposal. It seems to us that the establishment of some such authority could not fail to be beneficial to the public as well as to our hospitals, if the board of control were established on the principles lately provided for the regulation of the Oxford and Cambridge Universities, leaving the details of the management of our hospitals in the hands of governors, the central board exercising, in addition to the functions above referred to, a general supervision over these governors, urging them to direct their efforts to providing comforts for the patients, seeing that they are well cared for and properly fed—in fact, attending to matters of which they are likely to possess some knowledge, and upon which their opinion would be valuable.

But, as we have already remarked, Mr. GILBERT, in his article in the *Contemporary Review*, is evidently extending his range of observation regarding the circumstances of our hospitals, and is approaching one of the most important problems affecting their prosperity and that of the rising generation of medical men. He insists that some of the medical schools of the metropolis are in more ways than one a burden upon our hospitals, and in his opinion no portion of the sums of money collected for hospital purposes should be expended on medical schools. Further than this, he considers some of the schools with the medical students attached to them are a source of actual injury to the well-being of our hospital patients. It is impossible to ignore statements such as these; they must be carefully considered. If these complaints are true, the sooner steps are taken to rectify them the better; if unfounded, let the profession and public be made aware of the fact. Mr. GILBERT believes, and we are inclined to think he is right, that a Royal Commission would probably afford the best means of arriving at a correct conclusion on the subject, though it would not be easy in written evidence to bring out with sufficient force the unquestionable advantage our schools have been to the London hospitals.

We cannot help thinking, however, that the time has arrived, considering the increasing importance attached to the medical training of our students, to render it necessary that arrangements should be made for establishing some three or four colleges in various parts of London, conducted upon the principles of the similar institutions in Oxford and Cambridge. These colleges would contain dissecting-rooms, museums, and, in fact, everything necessary for teaching purposes, and would be entrusted to the care of professors who really understand the art of lecturing, and, above all, to a staff of tutors who would instruct and personally watch the progress of the students. It is only by some such radical change that an improved system of education, in some cases most urgently required, can be provided, together with a certain amount of discipline enforced among the students, which is so essentially necessary for the well-being of young men fresh from school. We believe that in the course of time funds might be raised if the friends and members of the profession throughout the country would exert themselves to collect sums for building and endowing three medical colleges, each institution containing rooms for about seven hundred students.

The metropolitan hospitals might thus be relieved from all claims made upon them on behalf of the medical schools, and at the same time premises required for the patients would be available and cleared from anything objectionable about the existing schools, the hospitals being used, so far as teaching is concerned, purely for clinical purposes, the students from each medical college attending the various hospitals, and being distributed in classes of about twelve men to each physician and surgeon. The disadvantages which our largest schools appear to labour under at present, of overcrowded classes in the wards and out-patient departments, would be rectified, and means provided for making clinical work the student's chief object of study after his second winter in London.

AGAIN we call attention to the fact that if the County Government Bill becomes law coroners will in the future be chosen by County Boards, composed of justices and guardians, instead of being elected by the freeholders. The new method may promise some advantages, but, as we have already pointed out, it will be necessary to take substantial guarantees that the proceedings of officers acting in the interests of Justice—in that initial stage when clues to the truth about crime are most readily discovered or destroyed—shall not be hampered by the economy of boards essentially financial in their function and objects. The ratepayers of the county of Middlesex are wont to be refreshed, at short intervals, by reports of the lively, though perhaps not very dignified, discussions which take place in the assembly of local justices on the subject of coroners' expenses. In the course of these

"scenes" it is the practice of the board to compare or contrast the policy of the several coroners "in the employ" of the Middlesex magistracy (that is how the justices like to put it) with respect to post-mortem examinations. The most saving of coroners, of course, receives the palm of approval.

Many practical thinkers are not unnaturally apprehensive that this strife may be carried on with vigour throughout the country, and produce the most disastrous consequences, as soon as the choice of coroners comes to be vested in the same authority which is responsible to the ratepayers for the disbursement of county funds. The danger is certainly one against which the public at large ought to be protected. The interests of justice are shared by the whole community, and should not be allowed to suffer in the struggle for local economy—a very commendable object in itself, but always subordinate to the needs of efficiency. The remedy we have proposed for this evil, contingent on the new arrangement, is that the expenses incurred by coroners should be defrayed out of the Consolidated Fund, and taxed in the court which is the central office of justice—that over which the Lord Chief Justice, the "coroner of all England," presides. As a matter of fact, the coroners' courts throughout the country are simply courts of record, and the records of their proceedings ought to be returned in due form to the Central Criminal Court. If this reform were effected, the payment of expenses might be made to depend upon the strict discharge of the coroners' duties in a manner satisfactory to the central court; and the first collateral consequence of this improvement would be to institute an additional and powerful reason why coroners should be chosen for special fitness, and so control their courts as to secure the supreme safety of the community. It will scarcely be denied that this plea, which may be taken as that of the medical profession, has the force of reason, and merits the consideration claimed for it at the hands of the Government.

The office of coroner is ancient, honourable, and of the highest moment to the community. It matters little what we call the functionary who investigates the causes of uncertified deaths; but it is *imperative* that there should be some one to whom this duty can be entrusted, and by whom it will be performed with strict impartiality and intelligence. The duty requires special qualifications, in part legal and in part medical. We are not sure that it would not be wise to separate the two aspects of the compound duty now devolved upon a single individual. This might be accomplished by appointing a public prosecutor, and charging a county medical officer with the task of investigating the "cause of death," in its scientific sense, *before* the presentation of any case to a jury. It is on many accounts desirable to relieve "medical officers of health" from private practice, and perhaps if this business were entrusted to them, after proof of special qualification, the end in view might be attained without any serious increase of expense to the ratepayers.

The mistakes and irregularities we so much regret with respect to the conduct of inquests are nearly all traceable to the lack of a well defined and generally understood rule of practice. It is not clearly perceived how exclusively the question before a court of this class ought to be limited to the initial question, "How did a particular individual come by his or her death?" At the risk of appearing ungrateful for exceptional services occasionally rendered to justice by coroners who exceed their duty, we cannot hesitate to express a strong opinion that it is no part of the official obligation devolving upon a coroner to push his inquiry a step beyond the discovery of the "cause of death." If when once that simple point had been elucidated coroners could be induced to transfer suspicious cases instantly to the police, the chance of discovering the authors of crime would be sensibly increased. As matters are now conducted public attention is diverted from the real business in hand by the exciting pursuit of a "mystery"; while the perpetrator of some hideous offence, it may be too often, escapes. This is a great evil, and we fear it is in many instances the fruit of the vanity displayed by coroners, who are more anxious to make a show of work, than to discharge a tolerably plain duty in the manner most likely to advance the public good. It may seem ungracious to speak thus, but it is the truth we tell, and truth which needs to be spoken fearlessly.

The introduction of this Bill into the House of Commons affords an opportunity for drawing attention to some of the more practical aspects of a question in respect to which the interests of the public at large are deeply involved. We trust the measure will become law, but in its passage through the stage of committee there will need to be a close scrutiny of details. Foremost amongst these is the financial matter, to which we have pointed as a peril of no small moment. If there be, indeed, a risk of finding men selected for the office of coroner who will make economy the first, instead of a subordinate, object, it is not only desirable, but imperative, that some arrangement should be sought to counteract a tendency so humiliating and injurious. This may be the more readily and freely discussed because the warning does not imply want of confidence in any board which exists, but in new boards which are not yet constituted, and of which therefore we have no experience.

Annotations.

"Ne quid nimis."

THE DENTAL PRACTITIONERS BILL.

IN another column we print the petition presented by the Royal College of Surgeons of Edinburgh against the "Dental Practitioners Bill." It is satisfactory to find we have done that College an injustice in supposing that it shared the obtusity of the London College on a subject of vital interest to the great body of general practitioners in the kingdom. An attempt has been made to weaken the opposition offered to the measure by amending Clause 3 so as to admit all medical men, registered under the Medical Act of 1858 to the Dental Register. This is not what the profession desire; they have no wish to be bracketed with the advertising dentists of the day. They claim to be "dentists" because they are "surgeons" and dentistry is an integral part of surgery. The points upon which we now insist are two. No one who is not a surgeon must be allowed to call himself by that title, either using the word alone or in combination with any other terms. It is also imperative that the members of any examining board shall be duly registered medical practitioners.

THE ARMY MEDICAL DEPARTMENT.

WE understand that General Strachey and Dr. Cunningham have for some time past been engaged in elaborating a scheme, which has lately received the sanction of the

Secretary of State for India, whereby the old Indian Medical Service, which has done so much good in its day, and drawn so many of the ablest young men from our schools, is to be abolished, and in its place civil and military medical services are to be established in India. The military medical administration, both European and native troops, will be amalgamated. There will be one Surgeon-General (either belonging to the Indian or British service), with a British and Indian secretary, and the deputy inspectors-general will be selected in equal numbers from the British and Indian medical departments, and do the work of both troops—European and native. On the civil side there will be a Surgeon-General with the Government of India, who will have a secretary, and each local government will have a Surgeon-General or Deputy Surgeon-General. All officers will be recruited for military employ, as before, but be allowed the option of electing for civil or military employ. The Sanitary Department, both local and imperial, to remain separate. We believe it is a mistake not amalgamating the sanitary and medical departments, and calling them a Health Department; so that each new administration would have been made responsible for all health matters (medical and sanitary) coming within the scope of its duties. This was the view, we believe, Lord Northbrook and those he consulted in India took of the matter; in fact, the present scheme is precisely what was then proposed, with the exception of the very questionable element introduced into it now with respect to the position of the Sanitary Department, which has been, and seems likely to continue to be, an element of discord in the plan now sanctioned for the reorganisation of the Indian Medical Service.

HOSPITAL MORTALITY FROM SMALL-POX.

DURING the year 1877 no less than 6728 cases of small-pox were admitted to the Metropolitan Asylum Hospitals, and the number of completed cases recorded was 7242, including 1284 deaths and 5958 recoveries. During the epidemic of 1870–71–72 the number of cases treated in these hospitals was 14,808, and the rate of mortality was equal to 18·7 per cent. The Registrar-General, in his last Weekly Return, reports that the proportional mortality among the completed cases in these hospitals last year was 17·7 per cent., or one per cent. lower than during the last epidemic; but it is also shown that the rate of mortality among the cases treated varies very considerably from time to time during an epidemic. During the four quarters of 1877 the proportion of deaths to completed cases recorded was respectively 19·7, 16·4, 10·9, and 29·6 per cent. This marked variation in the rates of mortality among completed cases during the course of an epidemic is dependent in great measure upon the proportion which the new cases admitted bear to the number under treatment. High rates of mortality appear to have prevailed last year in the first and last quarters of the year, when the numbers of admissions were steadily increasing; during the second and third quarters of the year, when the discharges considerably exceeded the admissions, the proportion of deaths to recoveries was apparently low. After due allowance, however, has been made for this disturbing element, these hospital returns afford evidence that since the revival of the epidemic prevalence of the disease during the last three months of 1877 the proportional mortality of cases treated in hospital has increased, from which it may be inferred that the disease has assumed a more severe type. The Registrar-General notes that the mortality among 913 completed cases recorded in these hospitals in the first nine weeks of this year was equal to 24·3 per cent. It is desirable that the rate of mortality among cases of zymotic diseases treated in hospital should be carefully observed. In the Highgate Small-pox Hospital 170 completed cases were recorded during the last six months of 1877, among which the mortality did not exceed 12·9 per cent.; while in the Metropolitan Asylum Hospitals the proportion of deaths to completed cases throughout the year was equal to 17·7 per cent.

A PUBLIC HEALTH SOCIETY IN RUSSIA.

A RUSSIAN Society of Public Health was inaugurated in St. Petersburg on the 10th ult. under the presidency of Dr. Zdekauer. In the course of a brief but eloquent introductory address, Dr. Zdekauer observed:—"Wherever hygiene has become rooted in the habits of the people there has been observed a diminution of sickness and mortality, and the duration of life has been augmented. These results have been obtained in the countries of Europe where hygiene has received the greatest attention. The best example to be adduced in this respect is England, to which country, although our political sympathy is estranged, I bow with respect for the enlightened care it gives to the preservation of the public health. In England, since Parliament promulgated its famous sanitary laws, hygienic rules have acquired an obligatory force, and the example thus set is being followed by the world at large. London, at one time the most unhealthy of cities, has now become the healthiest in Europe. Paris has followed in her steps, and is now rivalling her. Vienna, Dresden, Munich, Brussels, &c., have entered upon the same course. Russia still lags in the rear. Nature has richly endowed our immense country. We are guaranteed for ages against too great an agglomeration of people. We have practically unlimited space, which enables us to disperse our populations. Nearly all our rivers contain potable water, and they are rich in fish of excellent quality. Our mineral resources rival the richest mineral districts elsewhere in Europe, and in some respects are superior. Lastly, our steppes, our forests, our pasturages covered with flocks and herds, the immense extent of our agricultural zone, yielding food to almost the whole of Europe, are sources of inexhaustible riches which have the directest relations with the public health. We ought, therefore, to undertake the meritorious duty of building a solid foundation for the future of public hygiene in Russia. It may be that our grandchildren will be the first to reap the results, but this should not cool our ardour. The beginning is difficult, but let us put our shoulders to the wheel, determined to succeed."

All success to the new Society. The rivalry of public health will give greater results than the rivalry of war.

COUNTER PRACTICE OF DRUGGISTS.

WE gather from a correspondence published lately in the *Pharmaceutical Journal* between the solicitor of the Pharmaceutical Society and the solicitor of the Apothecaries' Company that the latter Company has undertaken not to give its sanction in the future—and maintains, indeed, that it has not given its sanction in the past—to any prosecution on a pure and simple case of counter practice. Mr. Upton says in his last letter: "I am prepared again to affirm that in the few years during which I have acted as the solicitor of the Society I have not authorised any prosecution in a case of simple counter practice, and that I shall not do so, so long as I have the honour to hold that office; and I think you may accept this not only as the course which I should personally pursue, but as the policy of the Society." We have no wish to be impracticable, or to disturb what seems to have been an amicable understanding come to between these bodies, but we must venture to make the obvious remark that the "counter" is an absurd way of legalising medical practice. A chemist might prescribe over the counter for a case of Bright's disease, or consumption, or cholera. Our own columns have lately shown that he may practically go on prescribing for a disease in this way

till it is near being fatal, and ends in being so. We cannot see that the counter should save a chemist who, in grave cases, assumes a knowledge which he cannot have, and a function not assigned to him by law. We ask the Pharmaceutical Society, and, still more, the Apothecaries' Company, to reconsider this decision, or to refute our reasoning. The propriety of the Apothecaries' Company sanctioning the prosecution of a case should depend on the nature of the case, not on the intervention of the counter.

MR. HARDY ON THE ARMY CLOTHING INFECTION.

THE reply elicited from the Secretary of State for War by Mr. Torrens's question, though not altogether unsatisfactory, will probably produce an erroneous impression on all who are not thoroughly acquainted with the problem at issue. For instance, Mr. Hardy's assertion that only one case of small-pox has occurred during the last five years among those persons employed in "packing and manipulating" the clothes, has been travestied by several reporters into the startling announcement that this disease has attacked but one out of the many hundred "people who have to do with the Clothing Depôt at Pimlico." The real fact of the case is that the authorities at the Depôt have often protested that the danger of infection could not be very great, as the "viewers"—men who are the first to handle and examine the clothes made outside, sometimes in fever dens, and brought to them for approval—would be the first to contract the disease. Of these "viewers," only one had small-pox during the last five years; and it was to this individual that Mr. Hardy alluded. We are informed, however, that there are only three "viewers" employed to examine the clothes made for the Depôt by workpeople in their own homes, and one case of small-pox among three persons is not so very insignificant. The fact also that in this case "the man admitted he came from a neighbourhood in which it was raging" proved that, if the clothing did not poison him, he probably contaminated the clothing. It should be added that another "viewer" and his daughter caught the small-pox in 1871—a very short time before the five years of which Mr. Hardy imprudently boasts.

Apart from the three "viewers" who examine the clothes to which we more particularly objected, there are others who look over the contractors' work, and about twelve viewers, who scan what is made within the walls of the factory. Perhaps Mr. Hardy included these men also in his calculation. If so, this would not add much force to the argument. The "viewers" are for the most part pensioners—that is, above forty years old,—and are therefore, by reason of their age, not likely to contract this form of disease. Contaminated clothes that they might handle with impunity would in all probability breed disease among young soldiers, particularly if their stamina were reduced by the hardships of a campaign. On the other hand, in times of peace children might catch fever from their fathers' uniforms, though both "viewers" and soldiers had escaped. Finally, with regard to the persons "employed in packing," there are, we were informed, eight hydraulic presses, and one "packer" for each press. In giving, therefore, to Mr. Hardy's words the widest possible interpretation, we find that the number of persons stated to have been exempt from small-pox was very limited, and they belonged to a class but feebly susceptible to the disease.

Mr. Hardy further urges that "great care" is taken to prevent infection; but our commissioners can give the dates, names, and addresses of persons who have recently made clothes in infected houses, and of others who have gone daily from fever dens to work at the Pimlico depôt. Nor were any precautions taken in these instances, as the cases were not known to the authorities at the time of their occurrence. Under these circumstances we are glad to gather from Mr. Hardy's closing remarks that special instructions have been given to the medical men to ward off the dangers which we have pointed out. Indeed, this fact and the information we have received concerning the new precautions which the authorities are now taking at the Pimlico depôt confirm us in the belief that the importance of the subject we have brought forward has been generally acknowledged.

MEDICAL WOMEN AND THE CONJOINT SCHEME.

THE medical women agitators may felicitate themselves on one thing—if they have been unable to make out a *raison d'être*, they have at least succeeded in disturbing and unsettling the plans of their opponents. For many years a Conjoint Examination Scheme has been the absorbing theme of medical reformers. Everything relating to medical education and examination has been sacrificed to it, and some very urgent questions have been postponed in order that they might be considered under the auspices of the representatives of the co-operating authorities. After years of anxious care and thought, a scheme, satisfactory as far as it went, was at length prepared, and accepted by the General Medical Council in May last, and the Committee of Reference have been engaged for several months in discussing finally the precise terms upon which the co-operation should be made. The preliminaries were nearly completed when the medical woman question put in an appearance in the character of Marplot, and threatens to destroy the labour of many years. The Royal College of Physicians has determined to take the matter in hand without delay, and have summoned a meeting of the Fellows for the 18th inst., to consider whether women shall, under any circumstances, receive the College licence to practise physic. There can scarcely be any doubt as to the result.

ANNUAL MEETING OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE customary general meeting of the Royal Medical and Chirurgical Society for the transaction of formal business was held on Friday, the 1st inst. The proceedings were pleasantly varied by the presentation of the Marshall Hall Memorial Prize to one well worthy of it. This is the first occasion on which the prize, which is a quinquennial one, has been awarded, and as it was founded for the encouragement of researches into the physiology and pathology of the nervous system, there can be no question that in selecting Dr. Hughlings Jackson for the award the Council have made a choice which will be universally approved. Dr. Jackson's reputation is world-wide, and he has obtained it by steady unassuming labours in clinical medicine.

The other duty which the President had to perform was done as gracefully and as well as the pleasant task just referred to, for Dr. West, in his address, was as successful in imparting a fresh and living interest to the labours of those Fellows who had died during the preceding year as his predecessor in the chair on the previous anniversary. Some of the names on the roll were those of men who, but for the circumstance of their membership of this Society, would have passed away almost unremembered; for their work had been done in another generation, and, though its results abide, the authors of it are almost forgotten. The address was listened to with the greatest attention, and, we have no doubt, will be widely read when it is published in the Society's Proceedings. The suggestive sentences with which it concluded will bear repetition. They are as follows:—

"One thing has struck me much in drawing up these short notices of the deceased Fellows of our Society, that almost without exception they may be said, in words used long ago, to have 'served their own generation,' not themselves. The

sphere in which one worked was a wider, in which another a narrower one; this man threw his energies into the welfare of the parish where he lived, another devoted himself to the interests of the dwellers in the great continent of India, a third to the vindication of the principles which seemed to him to underlie the highest interests of our profession, while a fourth, not greedy of the gain which he might have had every day, nor thirsting for public distinction, which would have been bestowed on small seeking, helped the poor and taught the student almost to his dying day. I know that to praise the days that have fled, to live in the long retrospect rather than in the short remaining future, is the natural disposition as life goes on, and its sun declines. But, for all that, I cannot refrain altogether from the question whether the spirit of the present day, the hurry to get on, the anxiety for wealth in order to meet a needlessly lavish expenditure, do not tend to emasculate the character by putting self, and that not a high self, in the place of something wider, nobler, better. Pardon me for raising the question here. Some may deem it out of place. It appears to me, however, that the first Medical Society in the kingdom should assert the highest principles in conduct as well as the soundest in science; and strong in the strength, which the position I owe to your kindness has given me, I have ventured to ask a question which of myself I dare not ask, which even now I crave your pardon for the asking."

THE SUPERANNUATION OF POOR-LAW MEDICAL OFFICERS.

A VERY painful case, illustrative of the unsatisfactory operation of the existing regulations as to the superannuation of Poor-law medical officers, has occurred at Oswestry. Mr. Broughton, after *forty-two* years' service as medical officer of the Ruyton district, has lately had to retire on account of infirm health. He applied last year to the guardians for a superannuation allowance, but his application was refused. He has again made an application, and this time his appeal has been supported by the Local Government Board, not only by a letter from the Board, which is as honourable to that department as just to Mr. Broughton, but also by the personal attendance of one of the general inspectors of the Board, Mr. Dansey, at the meeting in which Mr. Broughton's renewed application was discussed. The application has, however, been again refused, on grounds of local ratepayers' policy which are curiously out of place in face of the fact that the policy of granting superannuation allowances has been accepted largely in the kingdom, and has been approved by the Local Government Board. The harshness and injustice of the decision of the guardians in this case should convince the Local Government Board that if superannuation allowances are to be granted at all, their granting should not be left optional with the guardians.

MANCHESTER ROYAL INFIRMARY.

THE conduct of the Manchester Royal Infirmary is at present a somewhat difficult and delicate matter, and if Cardinal de Retz was right when he affirmed that it required as much power to rule a vestry as to govern a kingdom, as much care and skill will be needed to prevent the catastrophe of a collision between the lay governors and the medical committee as to ward off a rupture in the East. The new Board of Management is full of energy, and honestly anxious for the welfare of the hospital; but, unfortunately, it is at issue with the Medical Committee as to the best mode of ensuring that welfare. The present question is one of ventilation and drainage, in attempted solution of which the Weekly Board strongly recommend a definite plan, which the Medical Committee strongly and unanimously condemn. Without going into details, it will sufficiently denote the nature of the plan when it is stated that its most prominent feature is the external erection of four lavatories at the ends of the principal corridors; the cost involved in the charge is estimated at £5000. The Medical Committee on having this plan submitted, as already stated, unanimously condemned it, and suggested another, at the same time urging the erection of one or two permanent pavilions in lieu of the present wooden sheds. The Weekly Board was not in a position to entertain the latter suggestion, and somewhat precipitately sent a notice to the Medical Committee, stating its inability to carry out such a scheme, and declaring its determination to put its original plan in immediate execution. The Medical Committee thereupon protested once more, and in a very temperate resolution urged the Board to postpone the plans, for a time at least, until they had been more carefully examined. It is certainly to be hoped that the advice of the Medical Committee will be taken. At the same time it is very earnestly to be desired that the two Boards may, under all circumstances, work in harmony, and that, whichever has to give way, it will be done with a good grace. For the present the question is postponed, inasmuch as it will be submitted to a meeting of the general body of trustees.

HIGH-HEEL BOOTS.

THE absurd and ungainly practice of mounting the hinder part of the feet on stilts while the toes press the ground and bear the weight, as in the use of high-heels, is one against which it is not easy to write with temper. The device of strangling the waist with tightly-laced corsets was contemptible for its ignorance; that to which we now allude is outrageous in its defiance of the laws of gravity. It does not need a knowledge of anatomy to convince the shallowest thinkers, of the sex which worship the idol of Fashion, that the foot is forced into a wholly unnatural position, and distorted, by the heel being raised and the body made to rest on the ball of the toes! It should be unnecessary to explain that this disturbance of the foundation throws the whole superstructure out of gear, and deranges every mechanical function. A moment's reflection should lead to the instant abandonment of a practice so manifestly irrational and ridiculous; but, forsooth, the foot looks somewhat smaller as seen from the front or side when placed obliquely; so, regardless of common sense and common prudence, the practice prevails! Such is the folly and wantonness of vanity!

NEWCASTLE AND THE ARTISANS' DWELLINGS ACT.

AN inquiry was held, by order of the Local Government Board, at the Council Chamber, Newcastle, on the 28th ult., before Mr. Arnold Taylor, to investigate a scheme for demolishing unhealthy dwellings, and for the erection of wholesome house accommodation upon the site thus provided. Dr. H. E. Armstrong, the medical officer of health for the borough, gave evidence as to the necessity on sanitary grounds for the proposed undertaking, and he showed that the property with which it was proposed to deal was not only in an extremely dilapidated state, but wretchedly provided with the various sanitary arrangements without which health is impossible. Mr. Fowler, the borough engineer, stated that the dwellings to be removed occupied 5533 square yards, and the area upon which it was suggested new dwellings should be erected amounted to 7078 square yards. 782 persons will be displaced, and accommodation for 800 will be provided. The district with which it is proposed to deal is situated at New Pandon and Battlefield, and the net cost to the borough is estimated at £18,300. The area upon which the artisans' dwellings are to be erected will be set out in streets—viz., 40 ft. in width for front streets, and 20 ft. in width for back streets. The dwelling-houses will be erected three or four storeys high. The sanitary arrangements will consist of each house being drained with glazed sanitary tubes, and provided with water-closet accommodation, fire-

places with ventilating grates to each room, and yard spaces behind each block of houses for washhouses &c. The houses will have windows facing the south, and the site slopes towards the south. There appears to be no serious opposition offered to the scheme. The inspector visited the sites after hearing the inquiry, and will report to the Local Government Board in due course.

INFECTIOUS DISEASE HOSPITALS.

THE Reading urban sanitary authority, after repeated urging from the Local Government Board, have at length determined to establish a hospital for infectious diseases arising amongst the non-pauper class. This decision has been hastened by the unwillingness of the board of guardians to receive non-pauper cases into the workhouse hospital, and a short time back they (the guardians) expressed their determination no longer to receive such cases. A memorial has also been recently presented to the urban sanitary authority, signed by all the medical men practising in Reading, setting forth the necessity of providing accommodation for infectious diseases. It has been proposed that a large detached cottage, at the south side of the town (standing on some land belonging to the Water-works Company), should be fitted up and altered for the purposes of a hospital. This proposition has provoked a warm protest from certain residents in the neighbourhood of the site selected, and they have recently held a meeting and drawn up a petition to the sanitary authority and the Local Government Board in opposition to the selection of this particular locality, as unsuited for the purpose, and pointing out that there are various other more eligible sites available. Apart from the question of site, there can be no doubt that such a hospital is much required in Reading. The town, during last summer and autumn, suffered from a smart epidemic of scarlet fever, which might have been mitigated, if not prevented, by isolation of the first cases.

EXPERIMENTS ON THE DECUSSATION OF THE OPTIC NERVES.

J. MICHEL has lately recorded the results of a series of observations he has made upon the microscopical conditions of the optic nerves, chiasma, and tracts in dogs from which one eye had been enucleated, with a view of determining the course of the fibres. He finds that after enucleation the nerve of that side is atrophic as well as the tract of the *opposite* side, the atrophy being more expressed in the tract than in the nerve. The tract of the same side was healthy. It hence follows that decussation of the fibres in dogs takes place to a large extent.

THE WOOL-SORTER'S FATE.

ATTENTION has again been painfully directed to the peril which besets the occupation of a wool-sorter. The dust from the material is taken in with the breath, and irritates and sets up disease in the lungs. It seems that this even is not the worst form of danger to which the sorter is exposed. The dust from certain descriptions of alpaca wool or mohair has probably the power of blood-poisoning. It is thought by those who have closely investigated the subject that the disease propagated by some varieties of this wool is specific in its character and deadly in its results. Surely, if the material must needs be used, it becomes a public duty to insist upon the employment of proper means of precaution in working it. Apparatus has been devised for blowing away the loose particles before the wool is placed in the hands of the sorters, but, from some cause, probably a motive of economy, it is not generally used. Nor do the operatives commonly and constantly wear respirators, or work in thoroughly ventilated shops, as recommended. It would be well if the peculiar perils of this trade could be brought under the notice of the Legislature, and means taken to enforce a remedy. We would further venture to urge that it is of vital importance the dust of the worst descriptions of wool should be *destroyed* by heat or some powerful vapour instead of being simply blown into the atmosphere to poison the general community.

THE LONDON SMALL-POX EPIDEMIC.

THE Weekly Returns of the Registrar-General continue to show the increasing prevalence and fatality of small-pox in London. During the six weeks ending the 2nd instant, 267 deaths from small-pox were registered within registration London, whereas in nineteen of the largest provincial towns, having an aggregate population exceeding that of London, only one fatal case was recorded during the same period. One death from small-pox occurred in Salford during the week ending the 2nd instant. The deaths from small-pox in London, which had been 55, 47, and 39 in the three preceding weeks, rose again to 54 last week.

MORTALITY IN CALCUTTA.

CALCUTTA, at its best, has never been deemed a salubrious town, or one favourable to European life; but just now it appears to be particularly unhealthy. The mortality returns for December last, now before us, show that the death-rate reached the extraordinarily high figure of 52·31 per thousand annually. The principal contributor to such a portentous death-roll was fever, which caused 918 deaths; intestinal complaints other than cholera also ranged high, while a large amount of infantile mortality was recorded. Cholera was credited with 106 deaths—a number considerably below the average for the corresponding periods of the decade. Bombay runs Calcutta very close in the race of death, having, by the latest accounts, an annual mortality of 49·85 per thousand.

THE TEDDINGTON COTTAGE HOSPITAL.

AT the annual meeting of the friends of this institution, it was announced that 38 patients had been treated in the hospital during the year 1877. The total receipts had been £302 8*s.* 6*d.*, while the disbursements had been about £20 in excess of this sum. The hospital is much appreciated in the neighbourhood, and appears to meet a want, although, at present, the bed accommodation is slightly in excess of the demand. We have little doubt that the slight debt will be cheerfully paid off by fresh subscriptions, and we are glad to notice that the patients themselves contributed £31 19*s.* towards the current expenses.

CHESTER DIOCESAN DEACONESS INSTITUTION.

THIS institution, which is under the auspices of the local clergy, seems to be doing useful work. From the last year's report we gather that in the city of Chester 390 patients were attended by nurses, and to many of these valuable loans of body-linen, bed-linen, &c., were made; 3435 portions of food were also distributed from the invalids' kitchen, managed by the deaconesses. The expenditure for the year amounted to £323 5*s.* 9*d.*, leaving a balance in the hands of the treasurer of £45 18*s.* 3*d.* There are only four nurses at present, but this, we hope, is only the beginning of more extended work in the future.

STRUCTURE AND DEVELOPMENT OF SPERMATOZOA.

A. MENZEL, in a paper read before the sixth Congress of German Surgeons, states that he has made a series of researches on the milky fluid taken from a spermatocele, with the following results:—(1) The spermatozoa of man exhibit, under certain circumstances, a very distinct transverse striation. (2) The sperm-cells of man exhibit very lively

movements and also a disposition to throw out long filiform processes. (3) The seminal animalcules proceed without exception in man from the nucleus, never from the cell protoplasm.

SANITARY CO-OPERATION.

AN association, projected by Professor Fleming Jenkin, and supported by Sir Robert Christison, Professor Hodgson, and others, has been formed in Edinburgh, with a view of providing for a periodical inspection of the sanitary condition of the dwelling-houses of its members. The association already numbers 418 members, and its Council consists of engineers, chemists, physicians, a builder, commercial men and lawyers. The notion is an excellent one, and we shall look with interest for information as to the action of the association.

WE fear the Royal Surrey County Hospital, Guildford, has fallen on evil times. It appears from the twelfth annual report, read at a meeting of the governors last week, that the expenditure of the institution last year was £246 6s. 4d. in excess of its income. The financial position of the hospital is most regrettable, and should engage the serious attention of its well-wishers. We have more than once before endeavoured to assist the institution by giving publicity to its pressing needs, and by urging the inhabitants of the neighbourhood, and especially the gentry, not to permit a good work to languish for want of a comparatively little monetary support. Many suggestions have been made with a view of reducing the working expenses, and at the meeting of governors to which we have alluded, a recommendation by the committee, that out-patients be charged one shilling for each letter, was carried by a majority of twenty-one votes to nine. This is a serious innovation, and it remains to be seen whether it will prove successful.

THE *Army and Navy Gazette* devoted some space last week to what we must take leave to characterise as elegant trifling with the arguments we have adduced to prove the gravity of the situation with regard to the small number of surgeons seeking to enter the services. Can pleasantries of the pen solve the problem of supply? We fancy not; and that being so, perhaps it may be permissible to counsel our contemporary to look the facts seriously in the face, and help to find a remedy. The time has passed for idle recriminations and vain regrets; it is also too late for silly jealousies. The executive arm cannot act in modern warfare without the scientific, of which the medico-sanitary is an important member. If all branches of the service will lay aside petty pretences of difference and unite energy and thought for the general good, we shall have less bickering and greater progress; not so many fruitless controversies, but more enterprise and better work.

THE deaths in London last week numbered 1637, representing a mortality-rate of 23·9—lower than has been recorded in any week since the middle of December. Whooping-cough, of all the zymotic diseases, still counts the largest number of victims, 112 deaths having been registered under this head; small-pox accounted for 54, measles for 41, scarlet fever for 35, diphtheria for 8, different forms of fever for 27, and diarrhœa for 11. To diseases of the respiratory organs 413 deaths were attributed.

OUR correspondent at Aberdeen writes:—An outbreak of typhus has occurred in one of the industrial schools, which has gradually spread until about twenty have been attacked, among whom are two deaths. The school has been partially broken up, and the inmates dispersed as much as possible, in order to prevent the further spread of the disease.

ACCORDING to the *Indian Medical Gazette*, Deputy Surgeon-General J. Irving has been ordered to India for the purpose of conducting the administration of the medical institutions of Bengal. Our contemporary opines that the office of the Surgeon-General will now be relieved of a large mass of local work which it has hitherto been burthened with, and which hardly comes within the proper sphere of its attention. The Surgeon-General, it is further urged, will thus be enabled to devote more attention to those larger questions which pertain to his function, while he will also be freed from the awkward system of double subordination—to the Government of India and to the local government of Bengal.

FEW reports of medical officers of health which come into our hands give clearer indications of thoughtful care and conscientious performance of duty than that by Mr. Linnington Ash, the medical officer of health to the Rural Sanitary Authority of Holsworthy, Devon. His report for the year 1877 now lies before us. It is a clearly-written, well-arranged document, admirably calculated to keep the sanitary authority informed of the sanitary condition and needs of its district, and to promote sound sanitary work in it.

AT the annual general meeting of the Medical Society of London held on the 4th inst., the Fothergillian gold medal for the best essay upon the "Antagonism of Therapeutic Agents" was awarded to Dr. Milner Fothergill. There were three competitors. At the same time, the silver medal of the Society, given to the author of the best paper read during the session, was awarded to Dr. Julius Althaus, for his paper on "Disease of the Anterior Cornua of the Spinal Cord."

SEVERAL cases of small-pox have recently occurred in the Kingston district, the disease, however, not being of a severe type. A proposal that the Board of Guardians should unite with the Kingston Corporation in representing to the Local Government Board the advisability of devoting the workhouse infirmary to the reception of infectious cases of the non-pauper class has fallen through, the guardians declining to entertain the question, on the ground that it would be illegal to receive such patients.

PROFESSOR BOTKINE, who recently suffered a fracture of the shoulder, by a fall from a sledge, is reported by the St. Petersburg journals to be progressing very favourably. He has resumed his private consultations and his clinical teaching at the Academy of Medicine, but not as yet his course of lectures on medicine. Professor Kaschlakow has occupied the Chair of Medicine during Professor Botkine's enforced confinement from his accident.

THE Russian *Gazette of St. Petersburg* states that the students of the University and of the Academy of Medicine of that capital propose to found an Office which will undertake the duty of finding occupation in teaching or otherwise for the poorer students. It is hoped that the Office will be organised under the direction of M. Bakatow, Rector of the University. It would appear that an Office of this kind is already in operation at Kazan.

AT the meeting of the Royal Medical and Chirurgical Society on Tuesday evening next, the 12th inst., a paper, communicated by Sir Henry Thompson, will be read, "On Five Hundred Cases of Stone in the Bladder of the Adult Male." So large a group of cases in the experience of one surgeon is quite unprecedented, and we understand that it comprises the whole of Sir Henry's experience up to January, 1877.

DR. B. W. RICHARDSON has been appointed Lecturer to the Faculty of Physicians and Surgeons of Glasgow for the present session. The days fixed for the lectures are the 25th, 27th, and 29th March, at 3 P.M. The subject he has selected for the course is "The Positive in Remedial Art." The lectures will appear in THE LANCET.

A TERRIBLE epidemic of small-pox is stated to be raging in Rieutort, near Perpignan, in the department of the Eastern Pyrenees. The disease, it is reported, has attacked nearly the whole of the inhabitants of the parish, and is very fatal.

MEDICAL ACT REFORM.

THE following are the principal clauses of a Bill which was draughted for and printed in THE LANCET, November 26th, 1870. It will be seen that they fulfil the chief requirements of the medico-political situation in 1878. We reproduce them in the hope that they may be adopted :—

Members of the Council.

5. The General Council shall consist of twelve or thirteen persons, as follows :—Four shall be nominated by Her Majesty with the advice of her Privy Council ; two of whom shall be appointed for England and Wales, one for Scotland, and one for Ireland. Four shall be elected, in the manner hereinafter provided, by the registered Medical Practitioners of the United Kingdom ; namely, two by the registered Practitioners of England and Wales, one by the registered Practitioners of Scotland, and one by the registered Practitioners of Ireland. Four shall be elected, in the manner hereinafter provided, by the Medical Authorities named in the Schedule of this Act ; namely, two by the Medical Authorities of England, one by the Medical Authorities of Scotland, and one by the Medical Authorities of Ireland. All these appointments shall be for a period of five years.

No person not a Licentiate to receive other Qualifications.

14. After the date fixed for the commencement of examinations by any Medical Board under this Act, none of the Medical Authorities shall grant any of the qualifications mentioned in Schedule (A) to the principal Act as amended by this Act, or by any of the Acts mentioned in the second Schedule of this Act, except to persons registered, or qualified to be registered, under the principal Act at the time of passing of this Act, or under this Act ; but it shall be lawful for such Medical Authorities respectively to examine any candidates for such qualifications, and to give them certificates entitling them to receive the said qualifications after giving proof that they have passed the examination for the Licence under this Act.

Title of "Licentiate" not to be granted by the Medical Authorities.

15. After the date fixed for the commencement of examinations by the first Medical Examining Board appointed under this Act, none of the Medical Authorities shall grant to any person any of the titles of Licentiate mentioned in Schedule (A) to the principal Act, or in any of the Acts mentioned in the first Schedule to this Act, or any title of Licentiate on the ground of the grantee's qualifications in medicine or surgery, or any branch of medicine or surgery.

Qualification for Registration.

16. After the date fixed for the commencement of examinations by the first Medical Examining Board appointed under this Act, no person who is not at that date qualified to be registered under the principal Act shall be registered under that Act unless he has, after examination by a Medical Examining Board appointed under this Act, obtained a licence to practise medicine and surgery under this Act.

Examining Boards.—Examination for the Licence to include all branches of Medicine, Surgery, and Midwifery.

21. Within three months after the formation of a General Medical Council under this Act, the Council shall appoint an Examining Board in each division of the kingdom, to be called the "National Medical Examining Board" for such division. The Council shall appoint only such persons as Examiners as are of approved skill in the several subjects on which they are to examine. It shall be the duty of the Examiners so appointed respectively to examine all candidates for a licence in Medicine and Surgery in the subjects allotted to the several Examiners by the Council, and to give to those candidates who satisfy them a certificate of approval for presentation to the registrar of the Branch Council of that part of the kingdom in which the examination has been held. It shall be the duty of the Registrar thereupon to procure licences signed by the President of the General Council and the members of the Executive Committee of the General Council, which licences he shall forward to the successful candidates. The fee for examination shall not exceed £5.

The examination for the licence shall include full inquiry both into the theoretical knowledge possessed by the candidates of the "Fundamental Medical Sciences," as well as of the subjects included under Medicine, Surgery, and Midwifery, and more especially of their practical acquaintance, as tested at the bedside, of cases of disease in all these departments.

Foreign and Colonial Practitioners.

28. Where any person proves to the General Council that he holds a medical diploma granted in any British possession or in any foreign country, and that such diploma represents the like degree of knowledge, as tested by examination, to that which is required for obtaining a licence under this Act, and entitles the holder thereof to practise medicine and surgery in the British possession or foreign country where the same was granted, and that he is more than forty years of age, and that he has practised medicine and surgery for not less than ten years out of the United Kingdom, or in the case of persons practising in the United Kingdom at the time of the passing of this Act, for not less than ten years in the United Kingdom or elsewhere, it shall be lawful for the General Council to direct such person to be registered under the principal Act without examination, but upon reasonable proof of character, and upon payment of such fee, not exceeding the ordinary fee for registration, as the General Council may from time to time prescribe.

The term "medical diploma," for the purposes of this Section, includes every degree or title or licence or authority to practise granted by any university, college, or body, or granted by any department or persons acting under the authority of the Government of the British possession or foreign country.

Where the General Medical Council are satisfied of the eminent professional acquirements and character of any person who for more than ten years has been practising medicine or surgery in any British possession or foreign State, they may, by a special order, direct such person to be registered under the principal Act, and such person may be registered accordingly.

Penalties for unauthorised assumption of Titles by unregistered Persons practising Medicine and Surgery for gain.

29. If any person who for gain either practises medicine or surgery, or any branch of medicine or surgery, or is engaged in the cure or treatment of diseases or injuries, and is not registered under the principal Act, takes or uses any of the designations enumerated in Schedule (A) to the principal Act as amended by this Act, or by any of the Acts in the first Schedule mentioned, or the designation of Licentiate in Medicine and Surgery, or Licentiate in Medicine or in Surgery, or in any branch of Medicine or Surgery, Professor of Medicine, Professor of Surgery, Physician, Surgeon, Doctor, Accoucheur, or any designation used to distinguish duly-qualified practitioners of medicine or surgery, or any branch of medicine or surgery, he shall for every such offence be liable, on summary conviction, to a penalty not exceeding £100. Provided : That a person shall not be liable to such penalty if he shows that he is not a British subject, and not ordinarily resident in the United Kingdom, and holds a medical diploma, degree, or title from some university, college, or body in any British possession or foreign country entitled to grant the same.

If any person who for gain either practises medicine or surgery, or is engaged in the cure or treatment of diseases or injuries, wilfully takes or uses any of the above-mentioned designations to which he is not entitled, he shall for every such offence be liable, on summary conviction, to a penalty not exceeding £100.

If any person not registered under the principal Act gives any certificate which, under the principal Act, is not valid

unless signed by a person registered under the principal Act, he shall be liable, on summary conviction, to a penalty not exceeding £20.

The General Medical Council, and also any Branch Medical Council, may take proceedings against any person for the contravention of this Section; and no prosecution for the contravention of this Section shall be instituted by any private person, except with the consent of the General Medical Council or some Branch Medical Council.

Nothing in this Section shall prevent any person who lawfully holds a certificate of fitness to practise as a dentist granted by the Royal College of Surgeons of England, from taking or using the title of Certified Dentist, or, if he has obtained a certificate before the passing of this Act, the title of Licentiate in Dentistry, or impose any penalty on such person for taking or using such title.

Nothing in this Section shall impose any penalty on any person engaged solely in the cure or treatment of the diseases or injuries of animals and not of human beings.

Persons to be qualified in both Medicine and Surgery.

30. No person who is not qualified at the time of the passing of this Act to be registered under the principal Act shall be entitled to be so registered unless he has qualifications to practise both medicine and surgery.

THE COLLEGE OF SURGEONS, EDINBURGH, AND THE DENTAL PRACTITIONERS BILL.

WE have been requested by the Secretary of the Royal College of Surgeons of Edinburgh to publish the following:—

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland in Parliament assembled.

The Petition of the Royal College of Surgeons of Edinburgh, under their corporate seal, humbly showeth,—

That your petitioners having carefully examined and discussed the proposed Dental Bill of 1878, entitled, "A Bill to amend the law relating to Dental Practitioners," are of opinion that certain amendments are necessary to be made in that Bill, which amendments they have on different occasions, and in various communications, submitted to the Dental Reform Committee.

That these amendments are in substance that the title or designation of "Surgeon," used either alone or in combination with any other word or words, ought to be conferred exclusively on those persons who possess the diploma of surgeon as registrable under the Medical Act of 1858.

That the assumption of such title by any other persons is inconsistent with the terms of the 40th section of that Act, inasmuch as that section provides that, "Any person who shall wilfully and falsely pretend to be, or take or use the name or title of ..... surgeon ..... or any name, title, addition, or description, implying that he is registered under this Act, or that he is recognised by law as a physician, or surgeon, or licentiate in medicine and surgery, ... shall, upon a summary conviction for any such offence, pay a sum not exceeding twenty pounds."

That it is quite unnecessary and uncalled for, as well as inexpedient and injurious, that such a title should be used or taken by such dentists as are not also at the same time registered as surgeons under the Medical Act.

That your petitioners' reasons for addressing your honourable House in this wise, on these matters are—*First*. That the prohibitory clauses of the Medical Act of 1858 seem to have been found inadequate for preventing the use of the word "Surgeon" in the designation assumed by unqualified persons as above adverted to, and that an opportunity now exists for rectifying this deficiency. *Second*. That the general public will be unable to distinguish between dentists who are, and those who are not, surgeons, should the terms of this Bill remain unaltered. *Third*. That the object of elevating dentistry to a higher position, as set forth by the promoters of this Bill, will be frustrated by its enactments here alluded to, since instead of encouraging those practising dentistry to become also surgeons, it would enable them to acquire the title and status of surgeons through another and subordinate qualification.

That your petitioners have explicitly stated these considerations to the Dental Reform Committee, on more than one occasion; and have urged the interference with the rights, privileges, and interests of duly qualified surgeons, which the present terms of the aforesaid Dental Bill entail. They have also shown that the title of dentist alone, and a certificate of fitness to practise as such, is all that a Dental Bill ought to contemplate, but these suggestions have not been acceded to.

May it therefore please your honours to take such steps as will prevent the Bill referred to being passed into law without such amendments as have been suggested by your petitioners. And your petitioners will ever pray.

Signed in name and by authority of the Royal College by

(Signed) PATRICK HERON WATSON, M.D.,
Edinburgh, March 1st, 1878. President.

THE ARMY MEDICAL SERVICE.

To the Right Hon. GATHORNE HARDY, M.P., *Her Majesty's Secretary of State for War.*

The Memorial of the President, Vice-President, and Council of the Royal College of Surgeons in Ireland humbly showeth,—

That your memorialists, upon the 3rd day of June, 1875, officially expressed to Her Majesty's Government their conviction that unless active steps were taken to amend the condition of the Army Medical Department "serious inconvenience would be felt in consequence of there being a deficiency of properly educated surgeons for the service of the Army," a state of things your memorialists regret to learn has come to pass.

Your memorialists beg to state that, in pursuance of charters granted to them by Her most gracious Majesty, and Her Royal predecessors, they have "provided a sufficient number of properly educated surgeons for the Army," but your memorialists find that with hardly one exception these gentlemen will not take service in the Medical Department as at present organised.

Your memorialists, therefore, feel that they would be deficient in their duty to the Crown and to the public were they not to call your attention to these facts, and again to urge Her Majesty's Government to take such measures as will tend to restore the Army Medical Service to its former position in professional estimation and public favour.

ROBERT MACDONNEL, *President.*
PHILIP CRAMPTON SMYLY, *Vice-President.*
J. STANNUS HUGHES, *Secretary of Council.*

Correspondence.

"Audi alteram partem."

ON CHANGES IN THE NERVOUS SYSTEM IN DIABETES.

To the Editor of THE LANCET.

SIR,—As Drs. Taylor and Goodhart seem to have concluded their remarks upon the state of the nervous system in diabetes, I too may say a last word. Drs. Taylor and Goodhart say that I have "grievously misinterpreted" them, and remark unfavourably upon what they term my menacing demeanour. I should be glad to think that the difference between us is less than their words conveyed, but I do not see how I could interpret them otherwise than I did, or fail to be distinct and strenuous in reply. Had the paper which called forth my remarks dealt, like that which followed them, chiefly with questions of interpretation, I should not have insisted, as I was compelled to do, upon matters of fact. As I understood the main purpose of Drs. Taylor and Goodhart's paper, it was not so much to discuss the significance of certain morbid appearances as to announce that of certain appearances described as morbid some had no foundation and others were not morbid. I might describe and even give pictures of hæmorrhages or circles of degeneration, but they are none the wiser nor the less wise, for their conclusions are not influenced thereby. Dr. Samuel Johnson once replied to a curious inquirer, "The explanation of that, Sir, is that it is a lie." Drs. Taylor and Goodhart say in more graceful form, "The explanation of some of these morbid

appearances is that they are not morbid, and as to others, they need no explanation, for we have not found them." They insist much upon the former allegation, the mistaking of natural for morbid appearances. "The more carefully we peruse the work to which we have alluded," they say in reference to this charge, "the more suspicious do the descriptions therein become." Where I describe gelatinous material as existing, they say it is easy to cut across pia mater so as to "represent" it; and even where no misconception can be suggested they are still distrustful; if I say I saw cavities with the naked eye, their surprise is not without qualification; "if it be true, as Dr. Dickinson states." I do not reproduce these phrases vindictively, but in justification of my reply to the manner of which they have taken exception. If my statements rested on anything better than imagination and mistake I was bound to say so, and that with what feeble emphasis I could command.

As to the facts, to which in this discussion I have confined myself, I need say little more. I have restated the existence of hæmorrhage and degenerative changes in such detail as may lend credence both to their existence and their morbidity. I have adduced the evidence in reference to these points of Dr. Lockhart Clarke, who has examined most of the preparations; and those who prefer to see with their own eyes have had an opportunity of doing so, and of giving their verdict upon the issues: are there such appearances in diabetic brains as have been described, and do they represent a normal or a pathological state?

Your obedient servant,

W. HOWSHIP DICKINSON.

Chesterfield-street, May-fair, March 3rd, 1878.

THE BRITISH MEDICAL ASSOCIATION AND MEDICAL WOMEN.

To the Editor of THE LANCET.

SIR,—May I ask you to allow me space for a few lines in your valuable journal? As a member of the British Medical Association, I was present at the "discussion on Pleurisy" at Manchester last year. As soon as a "medical woman" began to speak I rose, intending to go out. Some gentleman near to me said, "Sit down; don't you hear a lady is speaking?" Without venturing to give you the precise words of my answer, I may tell you that I did not sit down, but left the room at once. Apart from other overwhelming reasons why women should not be present at such meetings, there seems to be this powerful one—that no matter what she says, or who she is, the gentlemen present must sit and listen because of her sex; in other words, it would check healthy discussion. I may say that throughout the discussion members were constantly coming in and going out. Of course it is needless to observe that the admission of these two "medical women" was totally irregular, as the rules do not specify properly qualified men *or women*. I should not have ventured to address you on this subject but that I am so pleased to see that the strong feelings of a humble individual like myself against the propriety of women practising medicine are only the same as those of my much respected teacher, Sir Wm. Jenner, Dr. Wilson Fox, and many other eminent members of the profession.

I am, Sir, yours faithfully,

EDWARD J. TIBBITS, M.D. Lond.

Eldon-place, Bradford, Yorks.

LIVERPOOL.

(From our own Correspondent.)

THE vacant surgeoncies at the Royal Southern Hospital, caused by the resignation of Drs. Nottingham and Wollaston, have been filled by the election of Dr. Little and Mr. Ransford. Mr. Rhinalt Pugh polled within thirteen votes of the latter gentleman.

The condition of affairs at the Royal Infirmary is attracting attention. Till within a recent period debt has been avoided. At the end of 1876 there was a balance of £422 5*s*. 4*d*. against the treasurer, and at the end of 1877 the debt had risen to £5131 10*s*. This unfavourable result seems to be due to the fact that the average subscription list is insufficient, and that hitherto the deficiency has been made up by using legacies and donations for current expenses. As these sources of income are necessarily fluctuating, the existing crisis is not altogether surprising in the present state of the town's commercial depression.

A petition against the Dental Practitioners Bill was signed by nearly all the leading practitioners in a few days. The general opinion is that the Bill is a totally uncalled-for and mischievous bit of legislation.

March 5th, 1878.

PARLIAMENTARY PROCEEDINGS.

HOUSE OF LORDS.

Friday, March 1st.

THE MEDICAL ACTS.

The Duke of RICHMOND and GORDON gave notice that on an early day he would call attention to the Medical Acts and bring in a Bill on the subject.

HOUSE OF COMMONS.

Thursday, February 28th.

THE LANCET COMMISSION ON ARMY CLOTHING.

In reply to Mr. TORRENS, who asked the Secretary of State for War whether his attention had been called to the Report of the Commission appointed by THE LANCET to inquire into the risks attending the manufacture of clothing supplied to the army; and whether it is not urgent to take other and more effective measures than those at present adopted to detect and prevent the contamination of uniforms, &c., made for the British troops by workpeople who are in contact or live with persons suffering from scarlet fever, small-pox, or other infectious diseases,

Mr. Secretary HARDY stated: On the Government becoming acquainted with the report, my noble friend, the Surveyor General of the Ordnance (Lord Eustace Cecil) inquired into the subject previous to this question being put upon the paper, and I am bound to say that there appears to me to be no grounds for apprehension of danger from this cause. Great care is taken, so far as I can ascertain, that in any cases where there are infectious diseases the clothes shall be discontinued being made in those houses, and, perhaps, when I state the results up to the present, it will be seen that there are no grounds for any apprehension. I find that during the whole time of five years that these stores have been deposited at Pimlico, among those who are employed in packing and manipulating the clothing, there has been only one instance of small-pox, and in that case the man admitted that he came from a neighbourhood in which it was raging, and therefore it was not in any way connected with the clothing. I think that on the whole great care has been exercised up to the present time, but at the same time the medical men have been urged to use every exertion to prevent the clothing coming in contact with infected persons.

SMALL-POX.

Mr. SCLATER-BOOTH, in reply to Earl Percy, said the number of deaths from small-pox in 1876 was 2413; in 1877, 4280; the difference being entirely due to the small-pox epidemic in London.

NOXIOUS VAPOURS.

Colonel BLACKBURNE asked the President of the Local Government Board when the report of the Royal Commission on Noxious Vapours might be expected to be laid before the House.

Mr. SCLATER-BOOTH said: In reply to my hon. and gallant friend's renewed question, I have to inform him that I have had a letter from Lord Aberdare, the chairman of the Commission, explaining the circumstances which have delayed the completion of the report. I should hope, from the information given, that it may be laid on the table before Easter.

POLISH DOCTORS IN TURKEY.

Sir F. PERKINS asked the Under-Secretary for Foreign Affairs whether the Government had received any information in confirmation of the account that several Polish doctors, who had joined the Turkish medical staff, had been hanged at Sofia by orders of General Gourko.

Mr. BOURKE.—I answered a question upon this subject a few days ago. I have nothing to add to the answer I then gave. Rumours on the matter have reached her Majesty's Government, but we have not sufficient evidence to enable us to make any statement to the House on the subject.

Obituary.

DR. CHARLES RITCHIE.

THIS venerable physician died at Bayswater on January 27th, and his remains were conveyed thence for interment to Glasgow, in which city he had practised for forty-five years. Dr. Ritchie received his medical education in Glasgow, was admitted a Licentiate of the Faculty of Physicians and Surgeons of that city in 1815, a Fellow of that body in 1827, and a Doctor of Medicine of Glasgow University in 1839. His first sphere of labour was the parish of Neilston, near Glasgow, of which he afterwards published a medical topography, and in 1827 he removed to the city. One of his earliest public appointments was that of Lecturer on Midwifery in the Portland-street School, which he held for many years. He was one of the early contributors to the physiology of alcoholic stimulation, having published in 1831 a pamphlet "On the Physical Effects on the Human System of the Habitual Use of Distilled Spirit." In this and other contributions to the subject he took up an advanced position against the use of alcohol, not only on physiological but therapeutical grounds, which he afterwards came somewhat to modify. Nevertheless, throughout his whole life he was very cautious in the matter of therapeutic stimulation. His appointment as physician to the Glasgow Royal Infirmary gave him a wider sphere for practical work, which he resolved fully to occupy. He published many papers on fevers, scorbutic and other affections, chiefly in their pathological aspects; and a series of valuable papers on Chronic Diseases of the Heart in 1849-50. But the work with which his name will be most enduringly associated is his Researches in the Physiology of the Human Ovary, which were embodied in a series of nineteen papers in the *London Medical Gazette* of 1843-5. In these he showed that changes are constantly going on in the ovary from the earliest to the latest periods of life; that vesicles are being constantly formed and perish in the ovary before puberty as well as after it, during pregnancy, lactation, and amenorrhœa, and even after the cessation of the menses. So valuable did these contributions appear that they were republished by his son, the late Dr. Charles G. Ritchie, in 1865, with additional matter from the pen of the latter, bringing up the subject of ovarian physiology and pathology to the science of that date. In 1862 Dr. Ritchie was elected President of the Faculty of Physicians and Surgeons of Glasgow, which position he occupied for three years. About four years ago, feeling the infirmities of age increasing and his eyesight rapidly failing, he retired from practice and took up his residence in London.

W. G. PORTER, ESQ.

MR. PORTER was born in 1791, and died at Peterborough on the 3rd ult. For upwards of fifty years he enjoyed the most extensive practice in the neighbourhood, his sterling merits and genial disposition making him the personal friend and confidential adviser of the late Earl Fitzwilliam and the Marquis of Huntly. Attached to his profession, he attained a very high position in the estimation of his brethren and the public, winning the esteem and admiration of all classes. He is said never to have lost a friend or made an enemy.

"A fine old English gentleman, one of the olden time," his portly figure, unruffled and genial disposition, will be long remembered. To the younger members of the profession his career may be pointed to as an example to emulate, for few men have left the world with a more unsullied reputation or purer name than William George Porter.

DONATIONS, &C., TO MEDICAL CHARITIES.—Sir William Earle has given £300, part of the share of Serjeants' Inn, belonging to him, to St. George's Hospital. St. Luke's Hospital for Lunatics has received £200 from the Grocers' Company, £200 from the Goldsmiths' Company, £50 from the Mercers' Company, and £21 from the Vintners' Company. The Duke of Westminster has given £100 to the Westminster Hospital Repairs Fund. The Goldsmiths' Company have given £100 to the Great Northern Hospital, and £50 to the National Hospital for the Paralysed and Epileptic.

Medical News.

NAVAL MEDICAL SERVICE.—The following is a list, in order of merit, of the gentlemen who recently passed the examination held at Burlington House for admission into this Service:—

A. J. J. Johnston, A. W. May, J. F. O'Donnell, E. R. H. Pollard, F. M. Geoghegan, A. L. Roe, F. A. Trevan, J. A. Vasey, H. G. Daniel, S. Keays.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Feb. 28th:—

Appleton, Thomas Alfred, Cathcart-road.
Atkinson, John Mitford, Winchester.
Davis, Arthur Randall, Longport, Somerset.
Pitt, Francis Dingley, Edward-street, Hampstead-road.
Wright, Harry Claude, Wynbery, Cape of Good Hope.

The following gentlemen also passed the Primary Professional Examination:—

Charles Curdle and Thomas Montgomery Hughes, Charing-cross Hospital; Walter Augustus Hume, St. Bartholomew's Hospital; Wm. More Hope, University College Hospital; William Joseph Pegge, Manchester Hospital.

UNIVERSITY OF DUBLIN.—At a meeting of the Senate, held on the 5th inst., the following degrees were conferred:—

BACHELOR IN SURGERY.—Ulysses Arthur Daly, Thomas Frederick Fogarty, Clemens Mallins, Edward William Wood White, Alexander George Young.

BACHELOR IN MEDICINE.—Henry Lawrence Cox, Edward James Cowen, Constantine Richard Egan, Ulysses Arthur Daly, James Dunn Day, Abraham Cowley Malley, James Acheson M'Cullagh, William Cox Neville, Alexander Pentland, William Craven Rockliffe, Charles H. Tench, Alexander George Young.

MASTER IN SURGERY.—Cedric Herbert Hurford, Rogers Wetherall Gore Taylor.

DOCTOR IN MEDICINE.—Jas. Alexander, Ephraim M'Dowell Cosgrave, George Gibson, John Arthur Irwin, William Craven Rockliffe.

THE name of Dr. E. H. Greenhow has been added to the Royal Commission recently appointed to inquire into the working of the Penal Servitude Acts.

QUEEN'S UNIVERSITY IN DUBLIN.—At a meeting of the Senate held on the 1st inst., the following examiners were appointed:—Examiner in Medicine: Thomas Grimshaw. Examiner in Surgery: William MacCormac. Examiner in Midwifery: Professor Kinkead. Examiner in Materia Medica: John Moore. Examiner in Medical Jurisprudence: Professor Hodges.

RICHMOND LUNATIC ASYLUM, DUBLIN.—A fire of a very serious character took place at this asylum on last Monday evening, resulting in the destruction of the hospital attached to the asylum for males, which had been constructed within the last few years at a cost of about £3000. There were upwards of 200 inmates in the building which was on fire, and we regret to state that one, who was paralysed, was burned to death.

MIDDLE-CLASS HOSPITALS.—The following City companies have become governors of the Invalids' Home Association (Home Hospitals) during the past few weeks, and have voted the following sums towards the first provisional capital of £10,000, of which £7000 has now been obtained:—The Clothworkers' Company, £105; the Fishmongers' Company, £105; the Merchant Taylors' Company, £105; the Goldsmiths' Company, £100; the Grocers' Company, £100; and the Salters' Company, £52 10s.

THE HUNTERIAN SOCIETY.—At the recent annual meeting of the Hunterian Society, the following gentlemen were elected officers for the ensuing year:—President: T. B. Crosby, M.D. Vice-Presidents: Walter Moxon, M.D., J. McCarthy, M.B., Buxton Shillitoe, Esq., G. Lichtenberg, M.D. Orator: W. Rivington, M.S. Trustees: H. F. Fotherby, M.D., Mr. D. de Berdt Hovell. Librarian: P. L. Burchill, M.B. Secretaries: R. Clement Lucas, B.S., Stephen Mackenzie, M.D. Council: Mr. J. E. Adams, Fletcher Beach, M.D., Mr. A. E. Durham, R. Fowler, M.D., T. Greenwood, M.D., A. Galabin, M.D., C. R. Nicoll, M.D., Mr. A. H. Smee, Mr. G. T. B. Stevens, Mr. W. C. Toulmin. The annual dinner of this Society was held at the Albion on the 22nd ult., when the retiring President, Mr. A. E. Durham, took the chair. He was supported by Professor Owen, the President of the Royal College of Surgeons, the President of the Medical Society, and many other distinguished members of the medical profession.

Medical Appointments.

BARLOW, W. H., M.D., has been appointed Consulting Physician to the Dispensary of the General Hospital and Dispensary for Sick Children, Manchester and Pendlebury.

BROWN, G., M.R.C.S.E., L.S.A., has been appointed Honorary Surgeon to the Booksellers' Provident Institution; also Medical Referee (North London District) to the London and Manchester Industrial Assurance Society.

CLARKE, J. P., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, &c., for the Castleblayney Dispensary District of the Castleblayney Union, at £125 per annum and fees, vice Morton, resigned.

CRADDOCK, F. H., B.A., M.R.C.S.E., L.S.A.L., has been promoted to be Senior Assistant Medical Officer and Deputy Superintendent of the Worcester County and City Lunatic Asylum, Powick, vice Cooke, appointed Superintendent of the Wiltshire Lunatic Asylum.

DOBBIE, R., M.D., L.R.C.S.Ed., has been appointed Medical Officer to the Glasgow and South-Western Railway Company in the Ayr District, vice Wield, deceased.

EASTWOOD, L., L.R.C.P.Ed., L.R.C.S.Ed., L.S.A.L., has been appointed Surgeon to the Skerne Ironworks, Darlington.

EVANS, R. D., L.R.C.P., L.R.C.S.E., L.M., L.S.A., has been appointed Surgeon &c. to the Festiniog Slate Quarries, in partnership with Dr. Thomas, of Four Crosses.

EWART, J., M.R.C.S.E., has been appointed Medical Officer of Health for the Accrington Urban Sanitary District, at £40 for one year.

FOX, J. M., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Altrincham, Congleton, Nantwich, and Northwich Rural, and Lymm, Middlewich, Northwich, Sandbach, and Winsford Urban Sanitary Districts, Cheshire, at £300 per annum, until the 25th December, 1880, vice Fraser, resigned.

GREENWOOD, M., M.R.C.S.E., has been appointed a House-Physician to the London Hospital.

LITTLE, W., M.D., L.R.C.P.Ed., M.R.C.S.E., has been appointed an Honorary Surgeon to the Royal Southern Hospital, Liverpool, vice Wollaston.

MAKUNA, M. D., L.R.C.P.I., M.R.C.S.E., has been appointed Medical Superintendent of the Metropolitan Asylum District Asylum at Fulham.

MORRIS, D. W., L.K.Q.C.P.I., M.R.C.S.E., has been appointed Certifying Factory Surgeon for Thrapston.

MURISON, J. F., M.B., C.M., has been appointed Officer for the Parish of Auchtergaven, Perthshire, Medical Officer of Health, and Public Vaccinator for the Western Division of the Parish, vice Craib, resigned.

O'NEILL, H., M.D., has been appointed Junior Resident Surgeon to the Belfast Royal Hospital, vice Jefferson appointed Senior.

ORCHARD, J. S., M.D., M.R.C.S.E., has been appointed Medical Officer to the Chorlton Union Infirmary, Withington, Manchester, vice Rice, resigned.

ORLEBAR, H. G., M.B., C.M., M.R.C.S., has been appointed Resident Medical Officer to the City of London Hospital for Diseases of the Chest, Victoria-park, vice Bark, resigned.

PATTERSON, J., M.B., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, &c., for the Ramelton Dispensary District of the Milford Union, co. Donegal, and Medical Officer for the Ramelton Fever Hospital, vice Murphy, resigned.

ROBERTSON, W. S., M.B., C.M., has been appointed a second Assistant Medical Officer to the County Asylum, Fareham, Hants, vice Thomson, resigned.

ROE, St. George, J., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer, Public Vaccinator, &c., for the Coolaney Dispensary District of the Tubbercurry Union, co. Sligo, at £100 per annum and fees, and £20 per annum as Medical Officer of Health, vice Blennerhassett, deceased.

RUSSELL, A. P., M.B., late Assistant-Physician to the Crichton Royal Institution, Dumfries, has been appointed Medical Superintendent of the Lincoln Lunatic Hospital.

SCALLON, E. O., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Milborne Port District of the Wincanton Union, at £98 per annum, vice Parsons, resigned.

SCHOLLICK, T. J., M.R.C.S.E., L.S.A.L., has been appointed a Medical Officer to the Royal Surrey County Hospital, Guildford, vice Taylor.

SHIVES, J., M.D., has been appointed Medical Officer for the District of Liversedge.

TAAFFE, R. P. B., M.D., has been appointed Consulting Physician to the Sussex and Brighton Infirmary for Diseases of the Eye.

TAYLOR, H. S., F.R.C.S.E., has been appointed a Consulting Medical Officer to the Royal Surrey County Hospital, Guildford, on resigning as Medical Officer.

THOMAS, R. W., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for Keynsham, vice Colthurst, resigned.

WATT, T., M.A., M.D., has been appointed Surgeon to the Skerne Ironworks, Darlington.

WHITE, E. W., M.B., M.R.C.S.E., L.S.A.L., has been appointed Assistant Medical Officer to the Kent Lunatic Asylum, Chartham, at £165 per annum, furnished apartments, &c., vice Turner, resigned.

BOOKS ETC. RECEIVED.

B. W. Richardson, M.D.: The Future of Sanitary Science.
The Monthly Homœopathic Review. March.
The Veterinary Journal. March.
R. F. D. Palgrave: The Chairman's Handbook.
Dr. R. E. Dudgeon: The Human Eye.
The History of Bell's Telephone.
J. E. Lee: Lake Dwellings. Vols. I. & II.
Diagrams for the Record of Physical Signs.
Dr. McCook Weir: Vaccination Reform.
E. M. Dixon: Report on the Air of Glasgow.

Births, Marriages, and Deaths.

BIRTHS.

ADAM.—On the 26th ult., at Eldon-street, Greenock, the wife of William Hogarth Adam, M.R.C.S.E., Fleet Surgeon, H.M.S. *Narcissus*, of a daughter.

BAINES.—On the 27th ult., at Eltham, Kent, the wife of Albert H. Baines, L.R.C.P.L., of a son.

BARTLETT.—On the 27th ult., at Elgin-road, St. Peter's-park, the wife of Edward Bartlett, M.R.C.S.E., of a son.

ERSON.—On the 26th ult., at St. George's-square, Huddersfield, the wife of Edward G. Leger Erson, L.R.C.P.E. &c., of a daughter.

KINGSLEY.—On the 28th ult., at Stratford-on-Avon, the wife of Henry Kingsley, M.D., of a daughter.

MEADOWS.—On the 24th ult., at Otley, Ipswich, the wife of G. T. W. Meadows, M.R.C.S.E., of a son.

SIMPSON.—On the 1st inst., at Highgate, the wife of G. A. M. Simpson, M.D., of a son.

MARRIAGES.

BLAIR—PRITT.—On the 28th ult., at St. John's, Preston, Robert Blair, M.D., to Emma, daughter of Henry Pritt, Esq.

MCDONNELL—MCDONNELL.—On the 27th ult., at the Catholic Church, Dunmore, by the Rev. James Stephens, C.C., Joseph McDonnell, Esq., L.R.C.P., L.R.C.S.E., to Annie, youngest daughter of Martin McDonnell, Esq., of Dunmore, co. Galway.

DEATHS.

CAMERON.—On the 1st inst., at West Kilbride, James Cameron, L.R.C.S.Ed., of Methven.

CRICHTON.—On the 3rd inst., at Sonachan, Lochawe, Argyllshire, N.B., Charles Crichton, Surgeon, aged 78.

CURRAN.—On the 3rd inst., at Mansfield, J. W. Curran, L.K.Q.C.P.I.

EVEREST.—On the 28th ult., at Rainham, Kent, of pleurisy, William Bentham Everest, M.R.C.S.E., aged 84.

JOHNSTON.—On the 3rd inst., at Bangor, co. Down, Henry M. Johnston, L.R.C.S.I., formerly of Belfast, aged about 50.

RIMINGTON.—On the 21st ult., at Hastings, William Ballantine Rimington, Surgeon, aged 68.

SMITH.—On the 22nd ult., at Kinderton, Cheshire, Thomas Bower Smith, M.R.C.S.E., aged 41.

SWAIN.—On the 26th ult., at Ker-street, Devonport, Harriet Eliza Cleeve, the wife of William Paul Swain, F.R.C.S.

WHITEFIELD.—On the 28th ult., at his residence, Elm Villa, Seaside-road, Eastbourne, Arthur Whitefield, Esq., M.R.C.S.E., L.M., & L.S.A., aged 43.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, MARCH 7TH, 1878.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb	Dry Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Mar. 1	29·77	W.	52	53	..	57	50	0·16	Raining
,, 2	29·87	N.W.	50	53	..	55	51	0·08	Cloudy
,, 3	30·43	W.	47	51	..	58	41	..	Fine
,, 4	30·59	W.	45	49	..	57	43	..	Cloudy
,, 5	30·54	N.W.	41	45	..	56	44	..	Cloudy
,, 6	30·12	W.	49	52	..	55	44	..	Overcast
,, 7	30·11	WSW	49	50	..	55	48	..	Overcast

Notes, Short Comments, and Answers to Correspondents.

THE CASE OF PHOSPHORUS POISONING AT NETLEY.

DR. BOILEAU, Assistant Professor of Pathology at the Army Medical School, Netley, sends us a brief abstract of the post-mortem appearances in the case referred to in our issue of Feb. 2nd, p. 177. From these notes we find that the mucous membrane of the epiglottis, larynx, and trachea was of a deep purplish colour; the lungs were natural; whilst the heart, which was fatty, contained no clots, and some subendocardial ecchymosis occurred in the left ventricle. Some blackish, very tenacious fluid was contained in the stomach and intestines, and Dr. Boileau points out that in thin layers this fluid was yellow. He does not think it was altered blood. The alimentary mucous membrane was of a pale colour throughout, and devoid of vascularity. There were numerous ecchymotic patches on the surface of the liver, and posteriorly well-defined areas of a yellowish-orange colour extending for the depth of an inch or two into the substance of the organ, which was soft, flabby, and flexible; its cut surface uniform, the lobulation being very indistinct. The gall-bladder was collapsed, and contained a small quantity of tenacious pale fluid.

C. R.—Parkinson; Lloyd; O. Airy; or the chapter in Ganot's Physics.

RECENT DEATH-RATES IN PORTSMOUTH AND PLYMOUTH.

THE study of the true bearing of rates of mortality deserves more attention than it has yet received. The marked variations in local death-rates often furnish matter for investigation that would afford information useful to sanitary science as well as to local health. The recent death-rates in Portsmouth and Plymouth, both dockyard towns situated on the south coast, present, for instance, such a striking contrast as to suggest natural inquiry for an explanation of the widely differing rates of mortality. During the first eight weeks of the current quarter the annual death-rate in Portsmouth averaged only 18·4 per 1000, whereas in Plymouth it was equal to 32·6 per 1000; thus in equal numbers living no less than 174 persons have died in Plymouth to each 100 in Portsmouth. The high death-rate in Plymouth has been partly, but only partly, due to the great fatality of zymotic diseases, especially of whooping-cough; the annual rate of mortality from the seven principal zymotic diseases during these eight weeks, which did not exceed 1·8 per 1000 in Portsmouth, was equal to 8·5 in Plymouth. It should be noticed that the borough of Plymouth does not include either Devonport or East Stonehouse, which are distinct sanitary districts, and that the estimated population of the borough in the middle of this year is only 73,590; whereas the population of the borough of Portsmouth, which includes Southsea, is estimated at 129,461. The sanitary condition of Plymouth, judged by its mortality statistics, has in recent years invariably compared unfavourably with that of Portsmouth, judged by the same standard; and it cannot but be useful to inquire why this should be. During last year the rate of mortality, which in Portsmouth was as low as 17·4 per 1000, was equal to 21·7 per 1000; showing that in equal numbers living 125 persons died during the year in Plymouth to each 100 dying in Portsmouth. If the Plymouth death-rate had not exceeded the ratio in Portsmouth, no less than 309 of the 1573 persons who died in Portsmouth during the year would have survived. The zymotic rate in Plymouth during last year only slightly exceeded the rate in Portsmouth; but the rate of infant mortality differed widely. The proportion of deaths of infants under one year of age to births registered was equal to 159 per 1000 in Plymouth, and did not exceed 133 in Portsmouth. Why should infant mortality be 20 per cent. higher in Plymouth than in Portsmouth?

Mr. James Kelland is thanked. The case shall appear soon.

"TENDON LIGATURES."

To the Editor of THE LANCET.

SIR,—In connexion with the remarks of Mr. Callender at the Clinical Society (*vide* THE LANCET of Feb. 16th) on the subject of tendon ligatures, it may be of some interest to your readers to know that Mr. Garner more than a year ago advocated the use of them in a communication he made to the British Medical Association at one of the Staffordshire Branch meetings. Those used by Mr. Garner were prepared from the tendons of the ox, roughly made by simply splitting up the tendon with a penknife, and soaking in carbolic acid. Prepared in this way they are somewhat open to objection on account of their want of evenness; but this might be overcome by greater care, and perhaps by rolling them under pressure. They possess certain advantages over catgut, and deserve a more extended trial. But I cannot help thinking they will prove inferior to silk, and, in certain cases, to torsion as a means of arresting hæmorrhage.

The advantages of tendon are, great strength, a secure knot, and early solution. As far as we have been able to ascertain at the North Staffordshire Infirmary, tendon and catgut of equal thickness take about the same time to dissolve. The following consecutive cases, in which I first made use of tendon ligatures (for a supply of which I am indebted to my friend Mr. Garner), will fairly illustrate their utility.

1. A girl, aged twelve, whose knee I excised for malformation, resulting from old synovitis. In this case five tendon ligatures were employed, being cut off short. The bones were firmly united, and the wound quite healed at the end of three weeks. There was no hæmorrhage. Nothing was seen of the ligatures.

2. A woman, aged forty, whose thigh was amputated in the lower third for primary encephaloid cancer of the head of the tibia. Four ligatures were employed, one being used for the femoral artery. No hæmorrhage occurred. Nothing was seen of the ligatures. Suppuration was rather profuse, but the case did well.

3. Excision of the elbow. Four ligatures were used in the same way, and with a similar result.

These cases will suffice to prove that the tendon ligature is trustworthy.

If tendons from the horse are employed, care will have to be taken that the animal from which they are procured is perfectly healthy, or the results of the use of tendon ligature may lead to its untimely disuse.

I am, Sir, your obedient servant,

Hanley, Staffordshire, Feb. 19th, 1878. W. D. SPANTON.

THE FACTORY ACTS.

THE two deputations which waited on the Home Secretary last week with regard to the payment of fees to factory surgeons, and with reference to the operation of the Factory Act of 1874, did not receive either encouragement or satisfaction. Mr. Cross was courteous, but unassailable, and declined to give even an expression of opinion.

M. O. H.—Neither the medical officer of health nor the sanitary authorities have power to prevent the occupation of rooms over stables, or to lay down rules for their occupation. Such rooms can only be dealt with under the provisions of the Public Health Act as to nuisance and unfitness of houses for occupation.]

THE MANCHESTER PROVIDENT DISPENSARIES' ASSOCIATION.

THIS Association has issued its third Annual Report. The Council are able to state that the effort to establish provident dispensaries is making fairly satisfactory progress. The dispensaries are becoming better known by the working classes, who are now learning that by small weekly payments they can obtain whatever medical assistance they may require at a cost proportionate to their income. The experience of the last three years has led to more efficient and economical management of the various institutions; whilst, in consequence of the larger proportion of healthy members, the medical men received during the year more adequate remuneration for their work. In 1876 the loss involved in working the dispensaries, including the cost of the investigations of the charities, amounted to £1235, while in 1877 it fell to £700, and it appears to be steadily decreasing. The burden of carrying on the six dispensaries has hitherto been borne by a few persons, and the Council now appeal to the general public for support. The promoters believe that the present system is the only effectual remedy which has yet been discovered for the abuse of the free charities, and they contend that it is not only just but advantageous to the medical profession, and of paramount service to the poor. The Bishop of Manchester, in moving the adoption of the report, dwelt on the large amount of unremunerated service performed by medical men.

M.D. should apply to the Justices in Petty Sessions for an arrangement as to his fees.

ATROPIA.

To the Editor of THE LANCET.

SIR,—Having lately seen in your journal a case reported in which alarming symptoms had been produced by the absorption of a small quantity of belladonna from a pessary, the following case, which occurred in my practice, may be of interest to your readers.

Mrs. D——, aged thirty-eight, seven months pregnant, far advanced in chronic phthisis, and suffering severely from cold night-sweats, was ordered a draught containing 1-50th of a grain of sulphate of atropia. It was taken about 10 P.M., when she retired to bed. Shortly after she was seized with violent pain and burning in the stomach, with great dryness of the fauces, and sensation as of choking; the latter feeling increased to such an extent that she sat up in bed with the intention of getting out, but found that she was blind. Luckily she vomited, and immediately felt relief, and when seen in the morning was in her usual condition. On the next night she was ordered half the former dose (that was the 1-100th of a grain). This was taken at the same time at night, when the former symptoms returned, but in a modified degree. She had, however, to drink water every ten minutes for two or three hours to relieve the dryness of the throat. As the night-sweating had been completely relieved, the drug was now discontinued.

I have been led to prescribe frequently of late the solution of sulphate of atropia in the night-sweating of phthisis, as my experience goes to prove that no agent is more reliable in relieving, and that permanently, this most distressing symptom, and, having employed it in larger doses, was not prepared for the alarming symptoms produced by the dose above mentioned. I can vouch for the accuracy of the dispenser, having watched him prepare the draughts. I find that Garrod gives 1-25th of a grain and Taylor 1-8th as having produced alarming symptoms; but no mention is made of so small a quantity as that given in this case, causing signs of poisoning, and I think there can be little doubt that had the woman not vomited so shortly after taking the drug the symptoms would have become very serious.

I am, Sir, yours faithfully,

Hackney-road, Feb. 13th, 1878. J. FARQUHAR LLOYD, M.B.

A Graduate in Arts and in Medicine of Glasgow objects, with seeming justice, to the existence of a back door to the profession in the shape of a "*supplementary* preliminary examination" at that University. This paradoxical institution must surely be mythical. We should like to see the matter explained officially.

Mr. Chas. S. Redmond.—The printer of the paper is Collins, 705, Jaque-street, Philadelphia. Doubtless our correspondent could obtain it through Trübner and Co., of Ludgate-hill.

ARMY MEDICAL MANAGEMENT.

To the Editor of THE LANCET.

SIR,—The following extract from a letter received by me from my brother, who is a captain in a popular regiment quartered at Malta, may be of interest to some of your readers. My brother has been suffering from the result of a blow received while playing la crosse. He writes as follows:—

"This leg is a great trial to me, and I am afraid it will be some time yet before I am able to use it to any extent. My present doctor doesn't approve of my keeping the leg bandaged, while the last one told me to do so, and I feel the former one was right. He, of course, saw it in its various stages, and had a better chance of judging. That is the great fault of the 'Cardwellian' system for doctors. Instead of having your own man, all the doctors are on the staff, and in consequence your doctor is sometimes changed three or four times in a fortnight. I have had mine changed three times; and had I gone on the sick-list one day sooner, I should have had *four changes in less than a month.*"

Comment is needless! What would civilian patients say to such treatment? This is only one of the many disadvantages of the system referred to. How can a medical officer take an interest in the men, or become intimate with the officers of a regiment, if he spends so short a time with them? The medical officer might, it appears to me, be replaced by a civil doctor living in the station, for he is practically that under these regulations. Can we wonder that the service is more and more unpopular year by year? Yours faithfully,

Edinburgh, March 5th, 1878. R. MACKENZIE.

THE REGISTRATION OF DISEASE.

THE registration of diseases, more especially those of a contagious character, has of late been suggested, and although there are difficulties in the way, yet they are not insurmountable. The Boston Board of Health, in consequence of the prevalence of diphtheria in that city, under the powers conferred upon them, recently enacted a law, requiring every householder, when cognisant of any contagious disease in anyone residing under his roof, to give immediate notice to the Board, a penalty not exceeding one hundred dollars being inflicted in case of neglect of this order. The medical attendant of the sick person is also required to give similar information, or incur a fine of not less than fifty dollars.

T. G. B. H.—The title may be accepted by persons holding the qualifications mentioned; but it is not a title which is adopted by those who are best entitled to it, as the title of "doctor" is used. The M.B. mentioned is not a surgical qualification.

Dr. Ogilvie Will's paper shall appear in an early number.

THE TELEPHONE AND PHONOGRAPH IN PRACTICAL MEDICINE.

To the Editor of THE LANCET.

SIR,—The telephone invented by Reis, of Frankfurt, in 1861, and brought to such wonderful perfection by Professor Graham Bell, is a scientific invention likely to have many useful applications.

Several months ago, after reading an account of the telephone in the *Popular Science Review*, it occurred to me that the instrument might be used in the auscultation of heart-sounds, and perhaps lung-sounds.

When a description of the phonograph appeared, I was still further convinced that the telephone combined with the phonograph would be of use in clinical medicine, inasmuch as we have in the phonograph the means of not only registering sounds, but actually reproducing the sounds themselves. However much the telephone may be perfected for clinical purposes, it must always fail in transmitting sounds of the same quality as those received, consequently this defect will necessitate a special education of the ear to interpret the modified sounds; but with the phonograph sound vibrations can be made visible to the eye, registered on paper like a pulse-tracing, and kept for future study and reference.

I see that Dr. Stein has recently invented a method of photographing the beats of the pulse. The method consists of photographing a beam of light which has been passed through a perforated vibrating disc. The perforated disc is attached to the artery like the sphygmograph. A strong light passing through the hole in the disc is made to reach a sensitive plate on which the movements of the disc are recorded in a wavy line.

I believe Dr. Stein's invention might be made available for registering the sound vibrations of the telephone; for by attaching a perforated disc at right angles to the receiving telephone drum, the vibrations of the latter could be recorded.

I remain, Sir, yours truly,

Carlisle, Feb. 25th, 1878. WM. BROWN, M.R.C.S. Eng.

Medical Officer of Health.—The adulteration of food was punished in this country some centuries ago with far greater severity than anything prescribed within the provisions of the Adulteration of Food and Drugs Act. So far back as the time of Edward the Confessor dishonest brewers were rigorously dealt with, and in the reign of Henry III. the same class of traders had to stand in the tumbrel or dung-cart, while unprincipled bakers were placed in the pillory—a degradation that was also inflicted on butchers who sold measly pork. The regulations for the government of King Henry VIII.'s household ordain that "his Highness's baker shall not put alum in the bread, or mix rye, oaten, or bean flour with the same, and, if detected, he shall be put in the stocks." The same code prescribes that brewers are not to put any brimstone in the ale.

R. W. C.—A medical man and his immediate family are entitled to be attended by a professional brother without charge. But the same principle can scarcely be applied to others than himself, his wife, and children. Whether the charges in question are reasonable we can scarcely say without having more particulars. They do not seem to be very kind.

TAPEWORM.

To the Editor of THE LANCET.

SIR,—Will any of your readers kindly inform me of the best means of curing a child, aged three years, of tapeworm? I have tried solution of extract of male fern and oil of turpentine, but without success.

Yours truly,

March 4th, 1878. M.R.C.S. Eng.

Enquirer, (Punjab.)—No; not unless the area of the single vesicle and subsequent scar had been equal to the areas and scars produced by three vesicles produced by ordinary puncture. The rule of vaccination by puncture is as follows:—"In all ordinary vaccinations, vaccinate by four or five separate punctures, so as to produce four or five separate, good-sized vesicles"; or if our correspondent vaccinate otherwise than by separate punctures, "take care to produce local effects equal to those just mentioned." The vaccination by puncture should be regarded as imperfect in proportion as the number of vesicles falls short of the number of insertions of vaccine lymph. See Dr. Seaton's Handbook of Vaccination (Macmillan and Co.)

H. G. D.—By reference to the Medical Register, or the list of the licensing body named.

Mr. E. G. Enson.—Dr. Tanner's Practice of Physic.

THE SHIFTS OF AN UNDERTAKER.

A VERY remarkable circular, or rather seven or eight of them in one day, have been sent to us, in which an undertaker addresses medical men in a most friendly and grateful style, thanking them for past favours in the form of recommendations, promising them quarterly instead of half-yearly cheques, and warning them against any mistake in the name, on the score that there is "another establishment" within a few doors, with which the writer has no connexion whatever. A more offensive and insulting appeal to the profession could not have been made.

India.—We had discussed in another column some prominent bearings of the question raised before receiving our correspondent's communication. We are, however, obliged.

One who desires to see the Army Medical Department not only contented, but efficient and honoured.—Half measures of "reform" are not likely to succeed. The position of affairs is grave, and needs to be revised throughout.

W. W.—The notes of the cases of Ovariotomy have not been overlooked. They will be published shortly.

"VOMITING IN PREGNANCY."

To the Editor of THE LANCET.

SIR,—I am somewhat surprised to see in your issue of to-day a paper by Dr. Jones, of Chicago, with an addendum by Dr. Marion Sims, in which the theory that the excessive vomiting occasionally attendant on pregnancy is due to uterine irritation is started as a novelty, and the suggestion made that it should be treated by the application of nitrate of silver to the cervix. It is, perhaps, not surprising that an American practitioner should be ignorant of the fact that the view was advocated many years ago by Henry Bennet, and the same treatment recommended. It is, however, astonishing that so accomplished a physician as Marion Sims should introduce so old a plan to the profession as a novelty discovered by his countryman. I turn to our latest systematic work on Midwifery, and I find what I state amply corroborated. Permit me to make an extract in proof: "Inasmuch as the vomiting unquestionably has its origin in the uterus, it is only natural that practitioners should endeavour to check it by remedies calculated to relieve the irritability of that organ. Dr. Henry Bennet directs especial attention to the condition of the cervix, which, he says, is almost always congested and inflamed, and covered with granular erosion. This he recommends to be treated by the application of nitrate of silver through the speculum. Dr. Clay, of Manchester, fully corroborates this view." (Playfair's Science and Practice of Midwifery, vol. i., p. 212 and 213.)

In justice to our fellow-countryman, Dr. Bennet, I trust you will insert this reclamation. I am, Sir, yours &c.,

Feb. 23rd, 1878. OBSTETRICUS.

Mr. Buck.—The correspondence will be returned. The point raised is scarcely *medical*. A medical officer should not attend until the receipt of an "order" for medical relief. If he does so, he acts in direct antagonism to the advice we have given in these columns, and we cannot consistently support the plea for an "order" *after* service has been rendered.

M.B. and C.M.—The best plan would be to write a courteous letter to the Chairman of the Board of Guardians, and consider his reply before acting.

THE ANTISEPTIC TREATMENT.

To the Editor of THE LANCET.

SIR,—In your report of the proceedings of the Bradford Medico-Chirurgical Society, in your issue of Feb. 16th, you quote me as saying that "Mr. Spence, though an opponent of Lister's, had in the last edition of his Surgery recommended the antiseptic treatment in certain cases where his own failed." Will you kindly allow me space to say that, so far as I remember, what I did say was that Mr. Spence, in his last edition, recommended the use of the antiseptic method "where other measures failed."

Yours faithfully,

A. RABAGLIATI,

Bradford, March 5th, 1878. Surgeon, Bradford Infirmary.

Kappa.—1. Four or five.—2. Yes, under penalty. Forms may be obtained from the Secretary, Local Government Board, Whitehall, London.—3. From Messrs. Eyre and Spottiswoode, through any bookseller.—4. From any of the principal instrument makers (see our advertising columns).

Inquirens.—Wiesbaden, Baden-Baden, Homburg, Aix-la-Chapelle, or Teplitz.

HEALTH STATISTICS OF VOLUNTEERS.

To the Editor of THE LANCET.

SIR,—It may perhaps interest your professional readers to learn that among the members of the Volunteers of Great Britain Mutual Aid Association (which is open to the non-commissioned officers and privates of the volunteer service, irrespective of age or location) the death-rate for the twelve months ending February 1st, 1878, has been less than 2 per 1000. The Association numbers over 1300 members, comprising volunteers from almost every county in England and Wales: and during the year only two deaths have occurred, at the ages of thirty-two and nineteen respectively. This fact alone proves beyond doubt how beneficial to health the training is which a citizen in the capacity of a volunteer receives, and it should be the means of stimulating those citizens capable of bearing arms, who do not as yet belong to the force, to do so without delay. Yours truly,

HENRY NOBLE (Sergt. 10th Devon R.V.),

Exeter, Feb. 19th, 1878. Secretary, V.M.A.A.

*** It should not be forgotten that volunteers are, of course, picked men. The probable mortality would, therefore, be lower than that of the general population.—ED. L.

Mr. Lee.—A chemist who signs himself "surgeon" to a certificate, not being registered under the Medical Act of 1858, or so qualified as to be entitled to register, must assuredly be indictable at common law. We return the original document.

THE paper of *Mr. G. Jackson* is marked for insertion.

"PUERPERAL PYREXIA."

To the Editor of THE LANCET.

SIR,—Before the discussion on puerperal pyrexia, so opportunely raised by the publication of Dr. Glover's excellent paper (THE LANCET, Feb. 2nd), finally closes, I would ask permission to be allowed to state that during the last sixteen months I have treated several cases of high temperature occurring within a week of childbirth by giving full doses of calomel (eight or ten grains) combined with opium (half a grain), and in every instance with most satisfactory results. A few hours after taking the calomel, free evacuation of the bowels has generally taken place, and at my next visit I invariably found a marked fall of temperature and diminished frequency of pulse. In only one such case since October, 1876, have I failed to give calomel and opium as above, and in this case I feared to do so, as the patient, a primipara, over forty years of age, was very thin and anæmic. Instead of calomel, I gave full and frequent doses of quinine, producing rapid chinchonism, but without any beneficial effect as regards temperature and pulse-rate, and the case developed into puerperal fever of a very severe form, the patient remaining in a critical state for some weeks, but happily she ultimately recovered. It is, of course, impossible to say that the fever would have been prevented had I ventured to give calomel in this case at the onset of the symptoms; but I afterwards regretted that I did not do so.

I remain, Sir, yours obediently,

Colebrooke-row, N., Feb. 26th, 1878. GEORGE BROWN.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Lister, London; Dr. Sansom; Mr. Macnamara, London; Dr. Duckworth, London; Mr. F. Mason, London; Lord Blantyre, London; Dr. Bolleau, Notley; Mr. Townsend, London; Dr. Dickinson, London; Mr. Cesly, Liverpool; Mr. Hopgood, London; Dr. Anderson, Cramlington; Mr. Cant, Nottingham; Mr. Russell, Edinburgh; Mr. Orlebar, London; Mr. Jack, Hampton Court; Mr. Field, London; Dr. Dudfield, Kensington; Mr. Gordon, Clapham; Mr. Newman, London; Dr. Roy; Lieut. Muirhead, Tetsworth; Mr. Murray, Brixton; Mr. Lankester, Leicester; Mr. Morley, Peckham; Mr. Wotton, London; Mr. Hine, Sheffield; Mr. R. A. Lucas, London; Mr. W. J. Smith, Rawmarsh; Mr. Cole, Bath; Mr. Berryman, St. Austell; Mr. Maclaren, Carlisle; Mr. Hebberd, St. Peter's-park; Mr. Pope, London; Mr. R. S. Smith, Bristol; Mr. Seale, London; Mr. Harrison, Liverpool; Mr. O'Brien, Kensington; Mr. Morris, London; Mr. Frost, Hartshill; Dr. Bond, London; Mr. Wright, Finchley; Dr. N. Kerr, London; Mr. Ransome, Manchester; Mr. Kempe, Exeter; Mr. Cooke, Worcester; Mr. Shute, Greenwich; Mr. Tegetmeier, London; Mr. Morton, New Brompton; Dr. Barton, Harpurhey; Mr. Craddock, Powick; Mr. Miller, Sunderland; Dr. Weatherby, Portishead; Mr. Phillips, Reading; Mr. Black, Cerne Abbas; Mr. Garstang, Blackburn; Mr. Kellard, Salisbury; Mr. Adkins, Yealmpton; Mr. Jackson, Plymouth; Mr. Roberts, Festiniog; Mr. Orchard, Salford; Mr. Goyder, Bradford; Dr. Murphy, Sunderland; Dr. Eastwood, Darlington; Mr. Frost, North Staffordshire Infirmary; Dr. Will, Aberdeen; Mr. Moss, London; Mr. Buck, Saffron Walden; Mr. G. Brown, London; Mr. Mackenzie, Edinburgh; Dr. Tibbets, Bradford; Dr. Tatham; Mr. R. Jones; Mr. Hurford; Mr. Wylie, Wimborne; Mr. Beck, Northampton; Dr. Greenwood; Mr. Pulford; Mr. Gurner; Mr. Campbell; Dr. Eberle; Mr. Falk; Dr. Pores, Paris; Mr. Judson; Mr. Brown, Carlisle; Mr. Sparrow; Mr. Lee; Dr. Eade, Norwich; Dr. Taaffe, Brighton; Dr. Moorhead, Weymouth; Dr. Harris; Mr. Southam, Manchester; Dr. Robertson, Fareham; Mr. Sutton; Dr. Scott; Dr. Ash; Mr. Watkins; Mr. Hare; Mr. Heath; Mr. Martin; Dr. Rabaglioti, Bradford; Dr. Hardwicke, Sheffield; Dr. Redmond, Gateshead; L.S.A.; India; An Inquirer; A Watchmaker; Medicus, Linton; The Secretary of the College of Surgeons, Edinburgh; Italia; House-Surgeon; Conciliation; W., Ramsgate; The Secretary of the Pharmaceutical Society; Medico, Cornwall; M.D.; M. D. R.; Alpha, Leicester; B. C. G.; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Hunter, Linlithgow; Mr. Devis, Bootle; Dr. Caton, Liverpool; Mr. Coulton, Birmingham; Dr. Branson, Sheffield; Mr. Livingstone, Jarrow-on-Tyne; Dr. Davies, Maesteg; Mr. Bromley, Stone; Mr. Townsend, Exeter; Mr. Hall, Liverpool; Mr. Powell, Kirkdale; Dr. Underhill, Tipton; Mr. Gasfield, Cleveland, U.S.A.; Mr. Judson, Eastbourne; Dr. Buchanan, Auchterarder; Mrs. Rahn, Ipswich; Mr. Tyne, Bacup; Mr. Johnstone, Greenock; Mr. Morton, Brightside; Mr. Hawkings, Plymouth; Mr. Crighton, Lochawe; Mr. Lee; Dr. Taylor; Mr. Lewis; Dr. Ramsay; Mr. Seymour; Mr. Grant; Mr. Webb, Beaminster; Dr. Clements; Dr. Stiles, Spalding; Mr. Warren; Mr. Goddard; Mr. Percell; Mr. Wilson; Mr. Epsom; Mr. Dyson; Mr. Temple; Mr. Coram; A. B. C., London; C. B. D., Richmond; W. B., Reading; M.D., Cold-harbour-lane; Medicus, Brompton; P. L. T., Bromley; L. C.; Medicus, Huddersfield; M.B.; B., Burnley; Epsilon; Doctor; X. Y. Z.; A. C., Chelmsford; M. C. W.; Alpha, Manchester; R. A.; Brace; Medicus, Oxford; M. A. W.; C.; Surgeon, Hull; G. W., Dublin; J. T.; H. H.; W. D.; Medicus.

British Architect, Middlesex Chronicle, Oswestry Advertizer, Northern Evening Express, Animal World, Cheshire Observer, Northampton Mercury, Bradford Observer, &c., have been received.

Medical Diary for the ensuing Week.

Monday, March 11.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 1½ P.M.; on Wednesday, 2 P.M.; on Thursday, 1½ P.M.; and on Saturday, 2½ P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Flower, "On the Comparative Anatomy of Man."
MEDICAL SOCIETY OF LONDON.—8½ P.M. Mr. Lund, of Manchester, will read a paper, and show a Patient from whom both Astragali were removed for severe double Talipes.—Mr. R. Davy will show Cases in which he has subdivided the Tarsal Arch for confirmed Talipes.—Mr. Adams will exhibit an improved Scarpa's Shoe for the Treatment of Talipes (Equino-varus).

Tuesday, March 12.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Professor Garrod, "On the Protoplasmic Theory of Life, and its bearing on Physiology."
ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.—8 P.M.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8½ P.M. Sir H. Thompson: "Analysis of 500 Cases of Operation for Stone in the Bladder of the Adult Male" (the Calculi will be shown).

Wednesday, March 13.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Flower, "On the Comparative Anatomy of Man."
HUNTERIAN SOCIETY.—7½ P.M. Council.—8 P.M. Dr. Fletcher Beach, "On the Diagnosis and Treatment of Idiocy, illustrated by Cases." Mr. Jacobson will show a Child whose Tibia had been divided for Rickets.

Thursday, March 14.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
ROYAL INSTITUTION.—3 P.M. Professor Dewar, "On the Chemistry of the Organic World."

Friday, March 15.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Flower, "On the Comparative Anatomy of Man."
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Gulstonian Lectures: Dr. Ferrier, "On the Localisation of Cerebral Disease."
ROYAL INSTITUTION.—8 P.M. Weekly Meeting.—9 P.M. Lord Rayleigh, "On the Explanation of certain Acoustical Phenomena."

Saturday, March 16.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Rev. W. Houghton: "Gleanings from the Natural History of the Ancients."

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